TM 11-5820-549-12

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

RECEIVING SET, RADIO AN/PRR-9
TRANSMITTING SET, RADIO AN/PRT-4

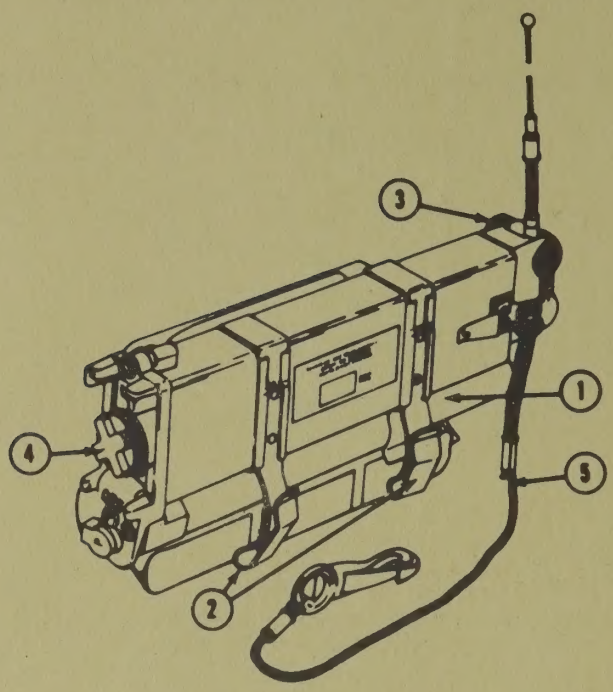
AND AN/PRT–4A

This copy is a reprint which includes current pages from Changes 1 through 5.

HEADQUARTERS, DEPARTMENT OF THE ARMY

OCTOBER 1966

CONDENSED OPERATING INSTRUCTIONS FOR RECEIVING SET, RADIO AN/PRR-9



TO OPERATE SET

THE NUMBERS OF STEPS 1 THROUGH 5 ARE THE SAME AS THE NUMBERS ON THE ILLUSTRATION.

(1) INSERT TUBULAR BATTERY, DRY BA 305/U THROUGH BATTERY CLIP AND INTO MATING CONNECTOR OF RECEIVER.

(2) CLIP RECEIVER TO HELMET

(3) LOOSEN ANTENNA RETAINING SCREW AND ROTATE ANTENNA UPRIGHT. TIGHTEN SCREW.

(4) RECEIVER CONTROL

FOR RECEIVING WITH SQUELCH: ROTATE RECEIVER CONTROL CLOCKWISE FROM ITS OFF POSITION. SET TO A COMFORTABLE LISTENING LEVEL WHEN VOICE OR TONE IS RECEIVED. IF CONTROL IS ROTATED TO ITS MAXIMUM CLOCKWISE POSITION, SQUELCH WILL BE TURNED OFF (BACKGROUND NOISE WILL BE HEARD). TO REACTIVATE SQUELCH, TURN CONTROL TO OFF, THEN BACK ON.

FOR RECEIVING WITHOUT SQUELCH: ROTATE RECEIVER CONTROL FULLY CLOCKWISE FROM ITS OFF POSITION. ROTATE COUNTERCLOCKWISE FOR COMFORTABLE LISTENING LEVEL. USE RECEIVER WITHOUT SQUELCH WHEN RECEIVED SIGNALS ARE WEAK OR IN TERRAIN UNFAVORABLE FOR GOOD RECEPTION.

(5) RECEIVER MAY BE WORN ON COMBAT SUSPENDERS, OR CLIPPED TO A POCKET OR BELT, IF MAXIMUM RANGE IS NOT REQUIRED. IF RECEIVER IS WORN IN THIS MANNER LOOP CORD END OF LANYARD THROUGH EYELET, PULL HOOK END THROUGH THIS LOOP AND CLIP TO SLIDE ON SUSPENDERS.

TO TURN SET OFF

ROTATE RECEIVER CONTROL TO THE MAXIMUM COUNTERCLOCKWISE POSITION.

(INSTRUCTION FOR TRANSMITTING SET, RADIO AN/PRT-4 ARE LOCATED ON INSIDE BACK COVER)

TM 5820-548-12-21

TECHNICAL MANUAL
No. 11–5820–549–12

HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D. C., *24 October 1966*

Operation and Organizational Maintenance Manual

RECEINGING SET, RADIO AN/PRR–9 AND TRANSMITTING SET, RADIO AN/PRT–4

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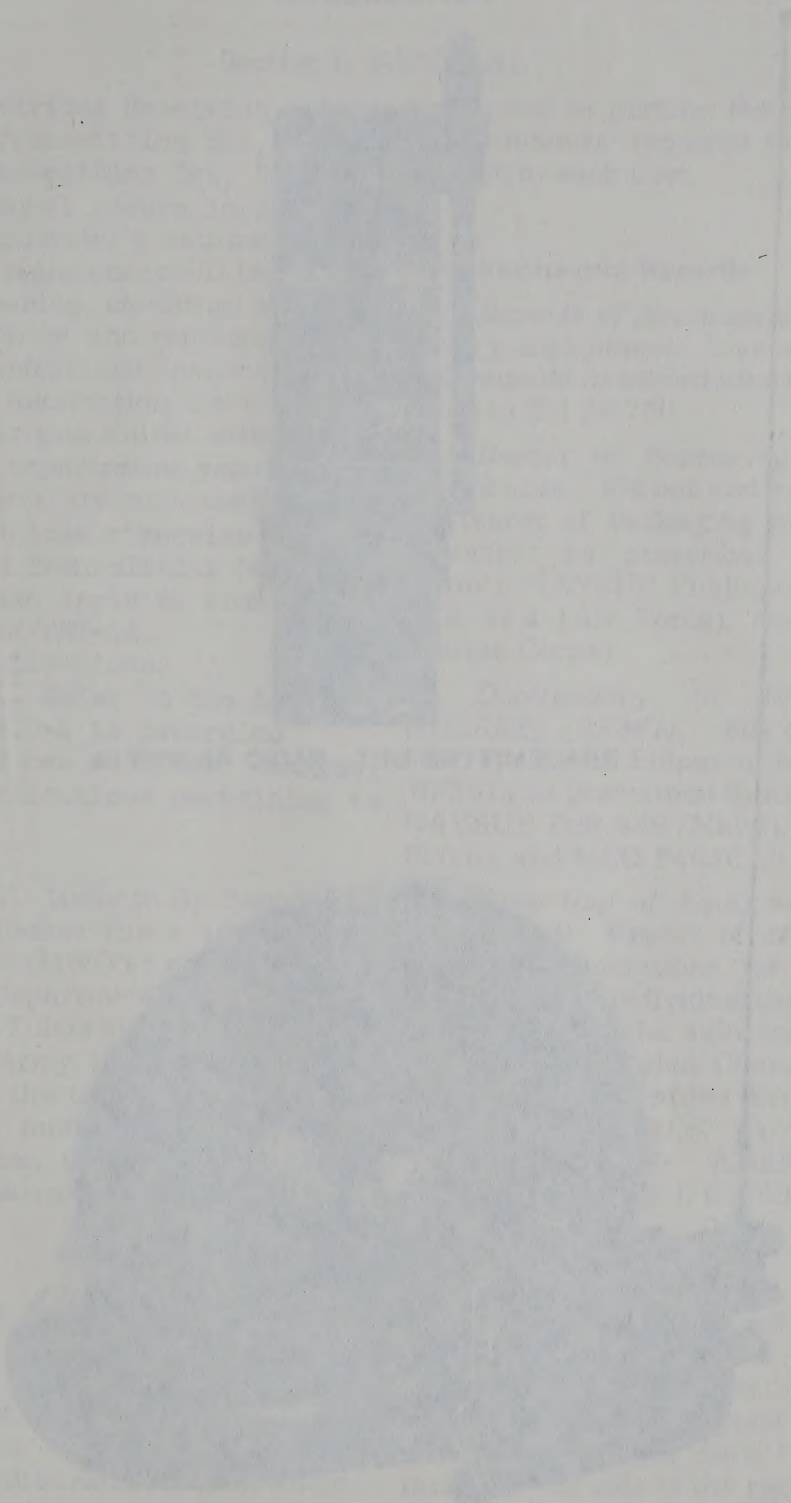

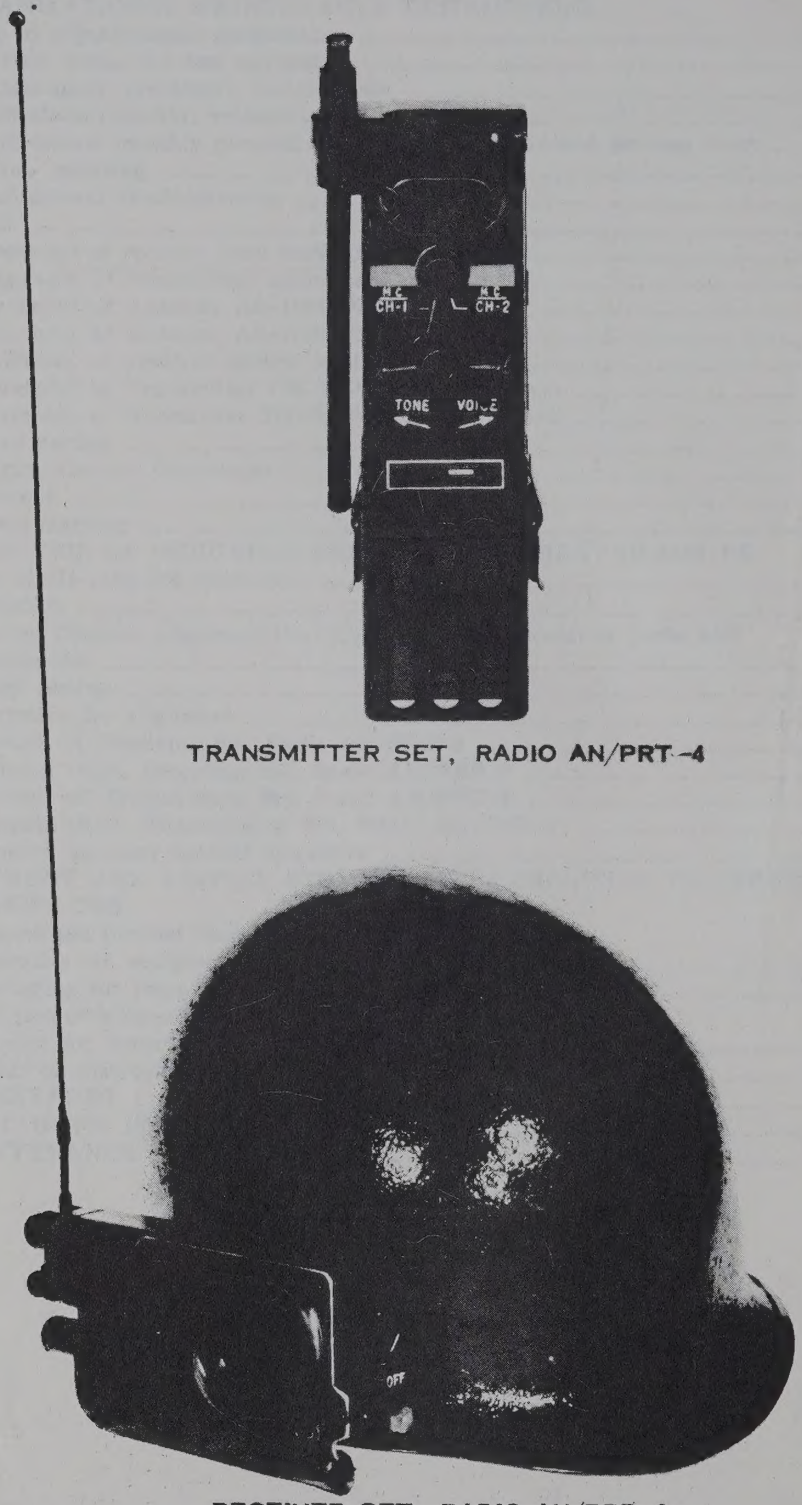

TRANSMITTER SET, RADIO AN/PRT-4

RECEIVER SET, RADIO AN/PRR-9

TM5820-549-12-1

Figure 1-1. Receiving Set, Radio AN/PRR-9 and Transmitting Set, Radio AN/PRT-4.

CHAPTER 1

INTRODUCTION

Section I. GENERAL

1-1. Scope

This manual describes Receiving Set Radio AN/PRR-9, Transmitting Set, Radio AN/PRT-4, and Transmitting Set, Radio AN/PRT-4A. The manual covers installation, operation, operator's maintenance, and organizational maintenance. It includes instructions for cleaning, checking, and inspecting the equipment and replacing batteries. The organizational maintenance chapter includes information on troubleshooting and repair procedures within the capabilities of the organization repairman. Alignment procedures are contained in TM 11-6625-937-12. Unless otherwise noted all references to Transmitting Set, Radio AN/PRT-4 also apply to Transmitting Set, Radio AN/PRT-4A.

1-2. Index of Publications.

a. DA Pam 310-4. Refer to the latest issue of DA Pam 310-4 to determine whether there are new editions, changes, or additional publications pertaining to the equipment.

b. DA Pam 310-7. Refer to DA Pam 310-7 to determine whether there are modification work orders (MWO's) pertaining to the equipment. Department of the Army Pamphlet No. 310-7 lists all authorized Department of the Army modification work orders, identifying the type, model, series, and Federal stock number of the item to be modified; number, date, and classification of the MWO; category of maintenance authorized to perform the modification; and the man-hours required to apply the modification to each item.

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Use equipment forms and records in accordance with instructions given in TM 38-750.

b. Report of Packaging and Handling Deficiencies. Fill out and forward DD Form 6 (Report of Packaging and Handling Deficiencies) as prescribed in AR 700-58 (Army), NAVSUP Publication 378 (Navy), AFR 71-4 (Air Force), and MCO P4610-5 (Marine Corps).

c. Discrepancy in Shipment Report (DISREP) (SF361). Fill out and forward Discrepancy in Shipment Report (DISREP) (SF361) as prescribed in AR 55-38 (Army), NAVSUP Pub 459 (Navy), AFM 75-34 (Air Force), and MCO P4610.19 (Marine Corps).

d. Reporting of Equipment Manual Improvements. Report of errors, omissions, and recommendations for improving this manual by the individual user is encouraged. Reports should be submitted on DA Form 2028 (Recommended Changes to DA Publications) and forwarded direct to Commanding General, U.S. Army Electronics Command, ATTN: AMSEL-ME-NMP-AD, Fort Monmouth, N.J. 07703.

Section II. DESCRIPTION AND DATA

1-4. Purpose and Use

(fig. 1-1)

a. Receiving Set, Radio AN/PRR-9, is a battery-operated, frequency-modulated (FM), crystal-controlled radio receiver which is designed for quick attachment and use on the standard helmet. It receives voice and tone-modulated signals on a preset frequency in the band of 47 to 57 megacycles (mc). The operating frequency is determined by the crystal installed in the receiver. An audio horn transducer is attached to the side of the receiver and directs sound under the rim of the helmet toward the operator's ear. The receiver also may

be used with reduced range when carried in a shirt pocket or clipped to a harness. A headset is also supplied.

b. Transmitting Set, Radio AN/PRT-4 is a handheld, battery-operated, dual-channel, crystal-controlled frequency-modulated transmitter designed for use in the 47 to 57 megacycle band. It transmits either audio tone or voice communications on either of two channels. The AN/PRT-4A rf signal, in addition, is modulated by a 150 cycle per second signal that is used to disable the squelch circuit of Radio Set AN/PRC-25 or Radio Set AN/PRC-77. The frequencies of operation are determined by the crystals installed in the transmitter.

c. When used together, Receiving Set, Radio AN/PRR-9 and Transmitting Set, Radio AN/PRT-4 provide one-way, short-range, portable communications.

1-5. Technical Characteristics

a. Receiving Set, Radio AN/PRR-9.

Frequency range.....47 to 57 mc.

Tuning.....Single-channel, crystal-controlled.

Crystal type (pluckout).....CR-81/U.

Crystal marking (pluckout).....in megacycles, 10.7 mc below channel frequency.

Receiver type.....Double-conversion superheterodyne.

Number of transistors.....14.

Number of diodes.....6.

Number of soldered-in crystals.....1.

Number of pluckout crystals.....1.

Number of printed circuit boards.....2.

Intermediate frequency, first conversion.....10.7 mc.

Intermediate frequency, second conversion.....455kc.

Sensitivity at 5-milliwatt output with 5-volt battery source.....0.5 v max.

Image rejection.....40db.

If rejection.....60db.

Frequency stability.....0.01%.

Power output.....5 mw nominal.

Squelch release point for 10-db Noise reduction.....less than 0.5 uv

Frequency response.....300 to 2,500 db±3.

Battery type required.....BA-505/U.

Current drain 5 volts with squelch disabled.....19.5 ma.

With squelch activated.....12.5 ma.

b. *Transmitting Set, Radio AN/PRT-4.*

Frequency range.....47 to 57 mc.

Type of modulation.....Fm.

Oscillator.....Voltage-controlled, crystal-stablized.

Power output at 30% efficiency:

Channel 1.....450 mw at 12 vdc.

Channel 2.....50 to 250 mw at 12 volts dc.

Type of signal.....Voice or internally generated tone.

Number of transistors....13(AN/PRT-4)
....11(AN/PRT-4A)

Number of diodes..... 8

Number of soldered-in crystals.... .....1.

Number of pluckout crystals.....2.

Crystal type (pluckout).....CR-81/U.

Crystal marking (pluckout).....in megacycles, 10.7 mc below channel frequency.

Printed circuit boards..3

Integrated circuits.....1(AN/PRT-4A)

Battery type required...BA-399/U

Battery drain:

Channel 1.....150 ma max at 12 volts dc.

Channel 2.....90 ma±5 max at 12 volts dc.

1-6. Components.

The components of Receiving Set, Radio AN/PRR-9 and Transmitting Set, Radio AN/PRT-4 are listed in the following chart:

Quantity	*Item*	*Height (in.)*	*Depth (in.)*	*Width (in.)*	*Unit Weight (oz.)*
1	Receiving Set, Radio AN/PRR-9, less antenna, lanyard, headset, harness slide, and battery.	3-3/8[a]	1-1/2	6-7/8	7.3
1	Antenna AS-1998/PRR-9	18-1/2			0.3
1	Headset, Electrical H-264/PRR-9				1.1
1	Lanyard assembly, receiving set	16			
1	Slide harness	1-1/8			0.75
1	Receiver Battery, Dry BA-505/U				1.1[b]
1	Transmitting Set, Radio AN/PRR-9, less lanyard, slide harness and battery.	9	2-1/4	3	15.6
1	Lanyard assembly, transmitting set	11			0.4
1	Slide harness	1-1/8			0.75
1	Transmitter Battery, Dry BA-399/U				1.1[b]

[a] Height, including antenna, is 21½ in.

[b] Used with, but not supplied with, equipment.

1-7. Common Names

A list of the nomenclature assignments for the components of Receiving Set, Radio AN/PRR-9 and Transmitting Set, Radio AN/PRT-4 is given below. A common name is given after each item.

Nomenclature	Common name
Receiving Set, Radio AN/PRR-9	Receiver.
Transmitting Set, Radio AN/PRT-4	Transmitter.
Lanyard assembly, receiving set	Receiver lanyard.
Headset, Electrical H-264/PRR-9	Headset.
Cord Assembly, Electrical CX-1022/PRR-9 (p/o Headset, Electrical H-264/PRR-9)	Headset cord.
Slide, harness	Slide.
Lanyard assembly, transmitting set	Transmitter lanyard.
Antenna AS-1998/PRR-9	Receiver antenna.
Antenna AS-1999/PRT-4	Transmitter antenna.
Case, Battery CY-6115/PRT-4	Battery case.
Receiver on, OFF, volume, and squelch control.	Receiver control.
Indicator, Channel Alignment ID-1189/PR[a].	Alignment indicator.

[a] Not a part of Receiving Set, Radio AN/PRR-9 and Transmitting Set, Radio AN/PRT-4. Use for organizational maintenance.

1-8. Description of Receiving Set, Radio AN/PRR-9 (fig. 1-2)

a. General. The AN/PRR-9 is a self-contained, single-channel receiver designed to be used on a standard combat helmet, clipped to a harness, or placed in a shirt pocket. A lanyard is used as a retainer to prevent loss. Three clips are mounted on the receiver case, two of which are used to clip the receiver to the helmet, and the other can be used to clip the receiver to a harness.

b. Receiver Assembly. The electronic assembly is removed from the receiver by removing two screws (fig. 5-5) and pulling the assembly out of the case. Removal is required when changing the channel frequency or aligning the receiver.

c. Receiver Antenna. The receiver antenna is a flexible stainless steel whip 18 inches long. The antenna is mounted to the antenna housing by the antenna retaining screw and is constructed to permit two operating positions, 90° apart. When the receiver is clipped to the helmet (fig. 1-1), the antenna is positioned perpendicular to the length of the receiver. When the receiver is clipped to the harness, the receiver is positioned parallel to the length of the receiver.

d. Receiver Control. A single, multipurpose control (fig. 3-1) functions as an on-off switch, volume control, and squelch control.

e. Horn Transducer. A horn speaker directs the sound toward the operator's ear when the receiver is worn on the helmet. Holes in the horn direct the sound toward the operator's ear.

1-9. Minor Components of Receiving Set, Radio AN/PRR-9 (fig. 1-2)

a. Lanyard Assembly Receiving Set. The receiver lanyard is a 16-inch long cord with a loop at one end and a compression clasp at the other. The loop is fastened to the eyelet on the receiver, and the clasp attached to the slide on the field pack suspenders.

b. Headset, Electrical H-264/PRR-9. The headset can be worn in the ear to provide secure communications, or for better understanding in noisy areas. It is attached to the receiver with Cord Assembly, Electrical CX-1022/PRR-9 (p/o Headset, Electrical H-264/PRR-9). The plug on the cord fits into the connector receptacle in the receiver (fig. 3-1).

c. Slide, Harness. The slide is worn on Suspenders, Field Pack, Combat M-1956. The clasp on the receiver lanyard is secured to the slide.

1-10. Description of Transmitting Set, Radio AN/PRT-4 (fig. 1-3)

a. General. The transmitter is a self-contained, dual-channel radio transmitter capable of transmitting voice or internally generated tone signals. It may be operated on either of

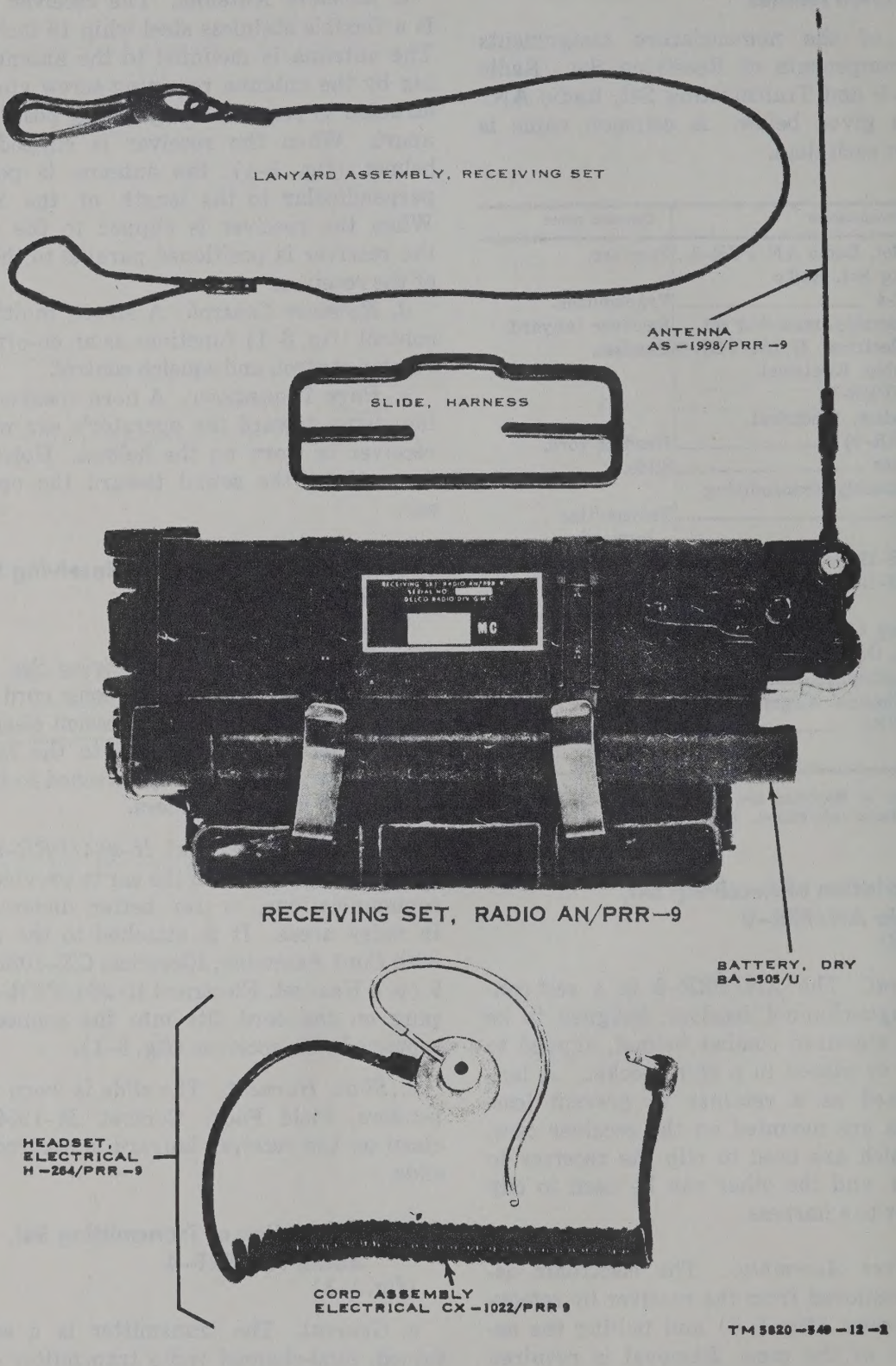

Figure 1-2. Receiving Set, Radio AN/PRR-9, components.

two channels which may be separated up to 1-mc in frequency. The transmitter is handheld during use. When not in use, it may be clipped to a pocket or belt. A lanyard may also be used to prevent loss.

b. Access to Electronic Assembly. Access to the electronic assembly (fig. 5–7) is gained by removing four screws and the rear cover. Access is required when changing one or both channel frequencies or aligning the transmitter.

c. Transmitter Antenna. The collapsible antenna is approximately 24 inches long when extended, and slides down along the side of the transmitter when collapsed.

d. Transmitter Controls. Two controls are required for operating the transmitter (fig. 3–2). The upper selector switch is used to determine the correct channel or frequency. The TONE-VOICE switch is used to select the type of transmission.

e. Microphone. The microphone above the upper selector switch (fig. 3–2) is used during voice transmission.

f. Case, Battery CY–6115/PRT–4. The battery case serves as a retainer for the transmitter battery. It is held to the transmitter by two clamps.

1–11. Minor Components of Transmitting Set, Radio AN/PRT–4

(fig. 1-3)

a. Lanyard Assembly Transmitting Set. The transmitter lanyard is an 11-inch long cord with a loop at one end and a clasp at the other. The loop is fastened to a bale on the bottom of the battery case, and the clasp is attached to the slide or field pack suspenders.

b. Slide, Harness. The slide is worn on suspenders, Field Pack Combat M–1956. The clasp on the transmitter lanyard is secured to the slide.

1–12. Additional Equipment Required

a. Battery, Dry BA–505/U (fig. 1–2) is not supplied as part of the receiver but is required for its use. A two-conductor male connector in the receiver mates with the connector in the battery. The BA–505/U provides a nominal 6 volts.

b. Battery, Dry BA–399/U (fig. 1–3) is not supplied as part of the transmitter but is required for its use. A four-conductor male connector in the bottom of the transmitter mates with a connector in the battery. The BA–399/U consists of two 7 1/2-volt sections.

c. Crystals, type CR–81/U, are supplied for the receiver and both channels of the transmitter for operation on 51 mc. The crystals are marked 40.3 mc, which is 10.7 mc below the operating frequency. Crystals for operation on other frequencies may be required by the using organization, but are not furnished as part of the radio sets. Possible operating frequencies of 47 mc (crystal marked 36.3 mc) to 57 mc (crystal marked 46.3 mc) may be used in the receiver or transmitter (para 5-17c). A second operating frequency within 1 mc of the first may also be used in the transmitter.

d. Arctic accessories are required for operation of the receiver and transmitter under arctic conditions, but are not supplied as part of the transmitter or receiver. Use and application of the arctic accessories are covered in paragraphs 2-12 and 3-7. The arctic accessories (fig. 1-4) consists of the following:

(1) Cable Assembly, Special Purpose, Electrical CX-11990/PRR-9 (receiver battery extender cable).
(2) Cable Assembly, Special Purpose, Electrical CX-11991/PRT-4 (transmitter battery extender cable).
(3) Harness, Electrical Equipment ST-153/PRR-9 (receiver harness).

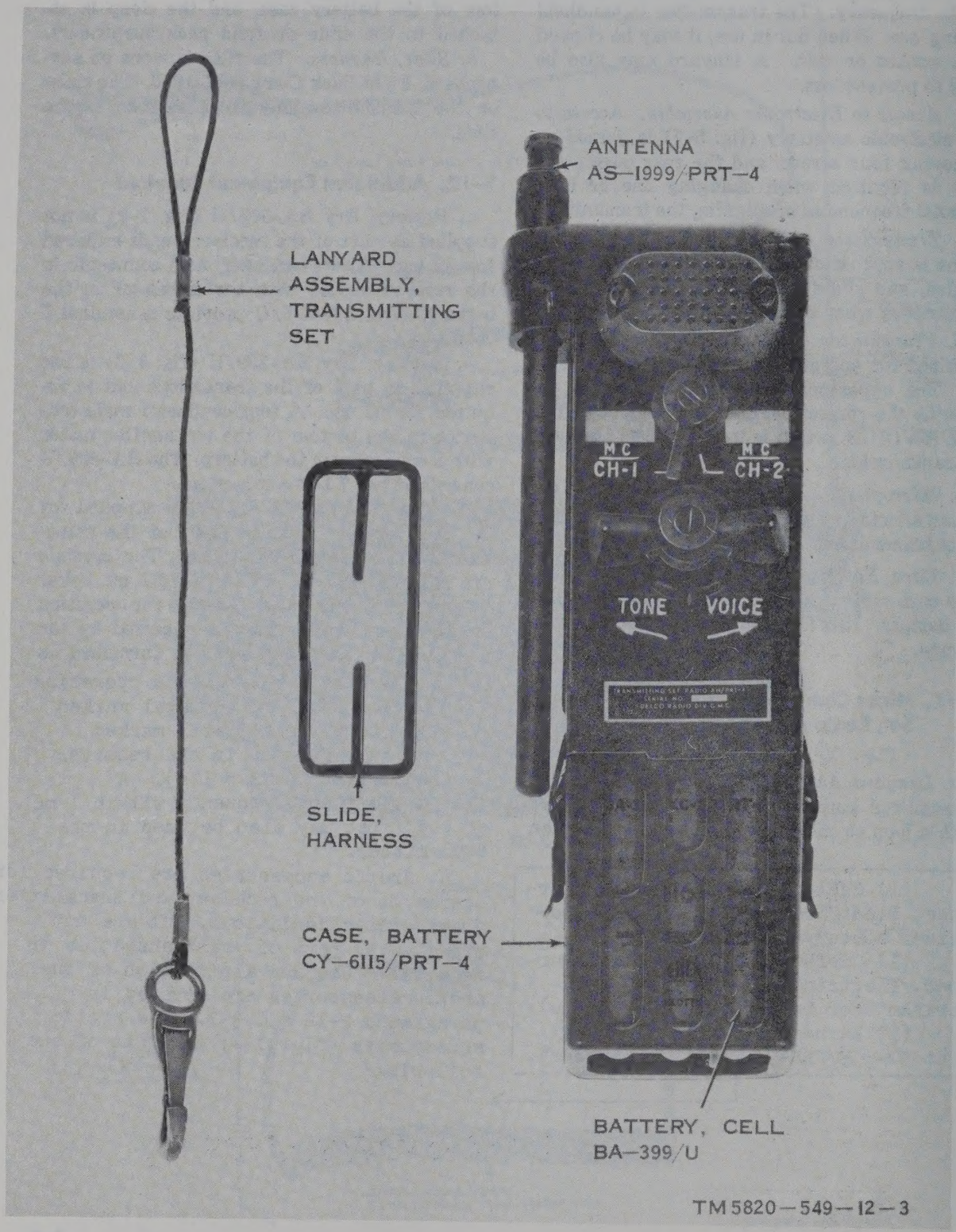

Figure 1-3. Transmitting Set, Radio AN/PRT-4, components.

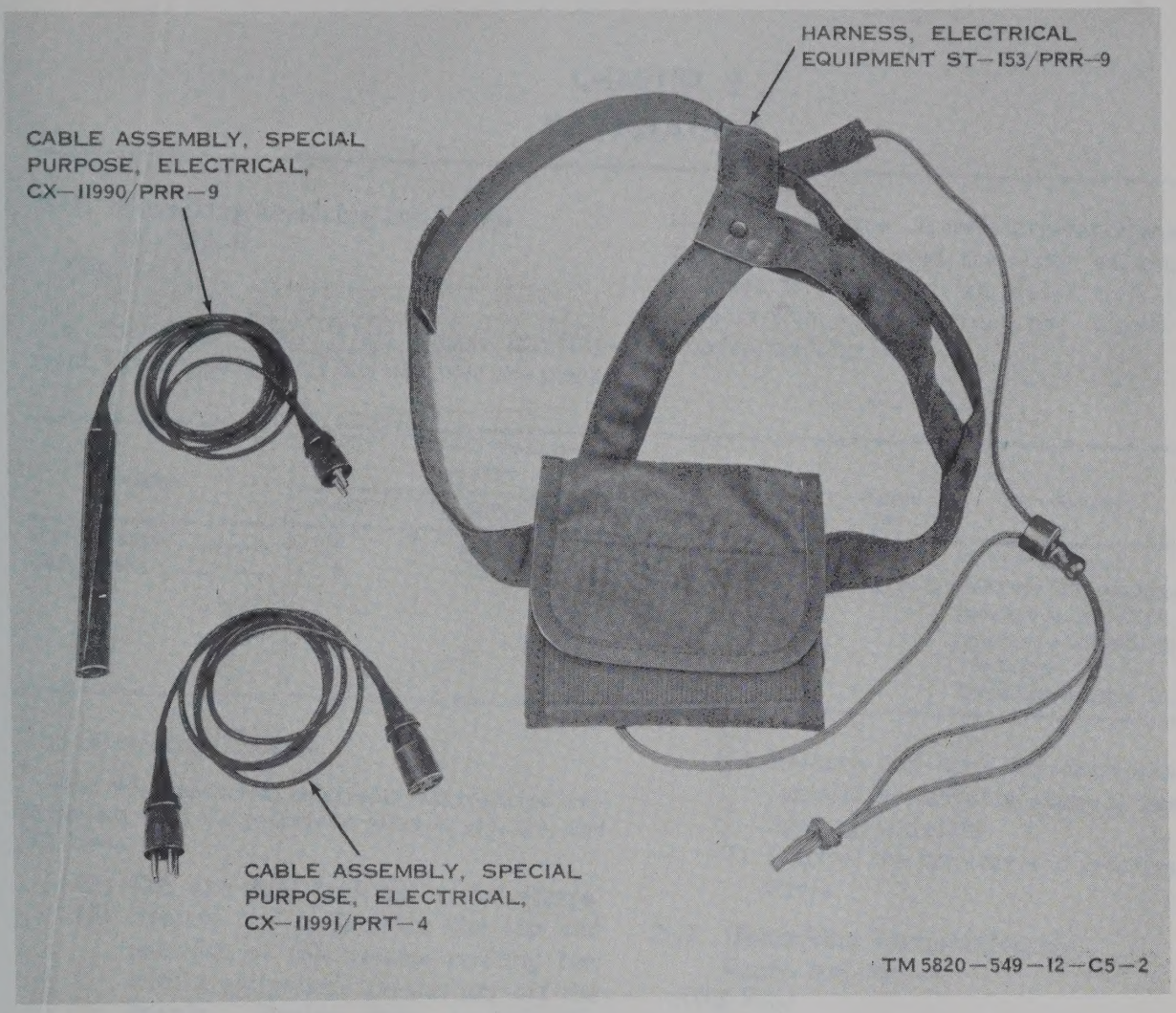

Figure 1-4. Arctic accessories.

CHAPTER 2
INSTALLATION

2-1. Unpacking Receiving Set, Radio AN/PRR-9
(fig. 2-1)

a. Packaging Data. When packed for shipment, the components of one receiver are placed in an inner carton. A moisture-vaporproof barrier is placed around the inner carton. This package is placed in an outer unit carton. Twenty-five unit cartons are placed in a wooden packing box.

Package	Overall dimensions (in.)			Volume (cu ft)	Weight (lb)	Contents
	Height	Width	Depth			
Wooden crate	32	30-1/8	22-1/2	12.55	130	25 unit cartons.
Unit carton	6	5-5/8	20-5/8	0.4	4-1/2	Receiver and antenna. Headset in envelope. Lanyard and slide in envelope. Technical manual in bag.

c. Removing Contents.

Note. When unpacking equipment that is packed only in cartons, omit the procedures given in (1), (2), and (3) below.

(1) Cut and fold back the metal straps.
(2) Remove the nails from the top and one side of the wooden packing box with a nailpuller. Do not pry off the boards. Prying may damage the equipment.
(3) Open the moisture-vaporproof barrier that covers the unit cartons.
(4) Remove the unit cartons and open those needed.
(5) Remove any filler material and desiccant.
(6) Remove and open the envelopes that contain the technical manual, headset, lanyard, and slide.
(7) Remove the receiver and reeceiver antenna.

2-2. Unpacking Transmitting Set, Radio AN/PRT-4
(fig. 2-1)

a. Packaging Data. When packed for shipment, the components of one transmitter are placed in an inner carton. A moisture-vaporproof barrier is placed around the inner carton. This package is placed in an outer unit carton. Twenty-five unit cartons are placed in a wooden packing box.

Package	Overall dimensions (in.)			Volume (cu ft)	Weight (lb)	Contents
	Height	Width	Depth			
Wooden crate	34-1/2	28-7/8	17	9.8	120	25 unit cartons.
Unit carton	6-1/2	5-3/8	15-1/8	0.3	4-1/2	Transmitter. Lanyard and slide in envelope. Technical manual in bag.

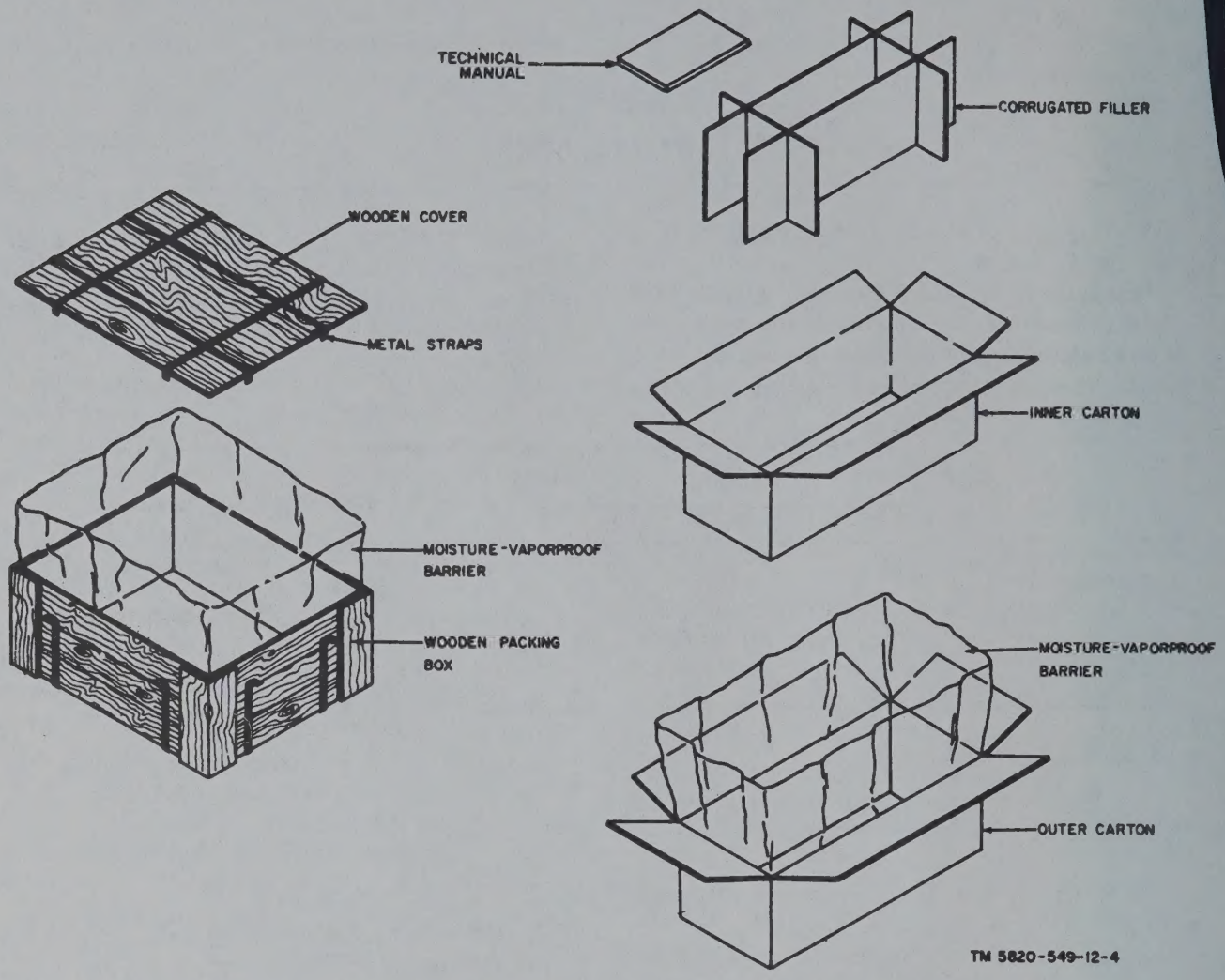

Figure 2–1. Typical packaging.

c. Removing Contents.

Note. When unpacking equipment that is packed only in cartons, omit the procedures given in (1), (2), and (3) below.

(1) Cut and fold back the metal straps.

(2) Remove the nails from the top and one side of the wooden packing box with a nailpuller. Do not pry off the boards. Prying may damage the equipment.

(3) Open the moisture-vaporproof barrier that covers the unit cartons.

(4) Remove the unit cartons and open those needed.

(5) Remove any filler material and desiccant.

(6) Remove and open the envelopes that contain the technical manual, lanyard, and slide.

(7) Remove the transmitter.

2–3. Checking Unpacked Equipment

a. Inspect the equipment for possible damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6 (para 1–3).

b. See that the equipment is complete as listed on the packing slip. If the packing slip is not available, check the equipment against the basic issue items list (app. B). Report all discrepancies in accordance with TM 38–

750. Shortage of a minor assembly or part that does not affect proper functioning of the equipment should not prevent use of the equipment.

c. If the equipment has been used or reconditioned, see whether it has been changed by a modification work order (MWO). If the equipment has been modified, the MWO number will appear on the front panel near the nomenclature plate. Check to see whether the MWO number (if any) and appropriate notations concerning the modification have been entered in the equipment manual.

Note. Current MWO's applicable to the equipment are listed in DA Pam 310–4.

2–4. Siting

a. General. The AN/PRR–9 and AN/PRT–4 operate at low-power and on high frequencies; therefore, the location of the equipment greatly affects the operating range. Normally, a line-of-sight range can be expected; that is, if receiver can be seen from the transmitter location, satisfactory operation is probable. An intervening hill or a tall building may hamper or prevent contact. Valleys, densely wooded areas, and low places may reduce the range of communications. Location on a hilltop or tower, especially if both transmitter and receiver are so located, will increase the operating distance. If possible, avoid locations near a source of electrical interference such as powerlines or telephone lines, radar sets, and field hospitals.

b. Transmitting Antenna Angles. The operating range of the equipment can be controlled to a certain extent by the angle of the transmitting antenna (fig. 2–2). When the transmitter is held so that the antenna is vertical, that is, perpendicular to the ground, equal range of transmission is obtained in all directions. When the transmitter is held so that the antenna is tipped forward, the minimum transmission is in front of the operator, and the maximum transmission distance is behind him.

2–5. Installing Antenna AS–1998/PRR–9 (fig. 2–3, 2–3.1, and 2–3.2)

a. Loosen the antenna retaining screw by turning it counterclockwise, and remove. Note

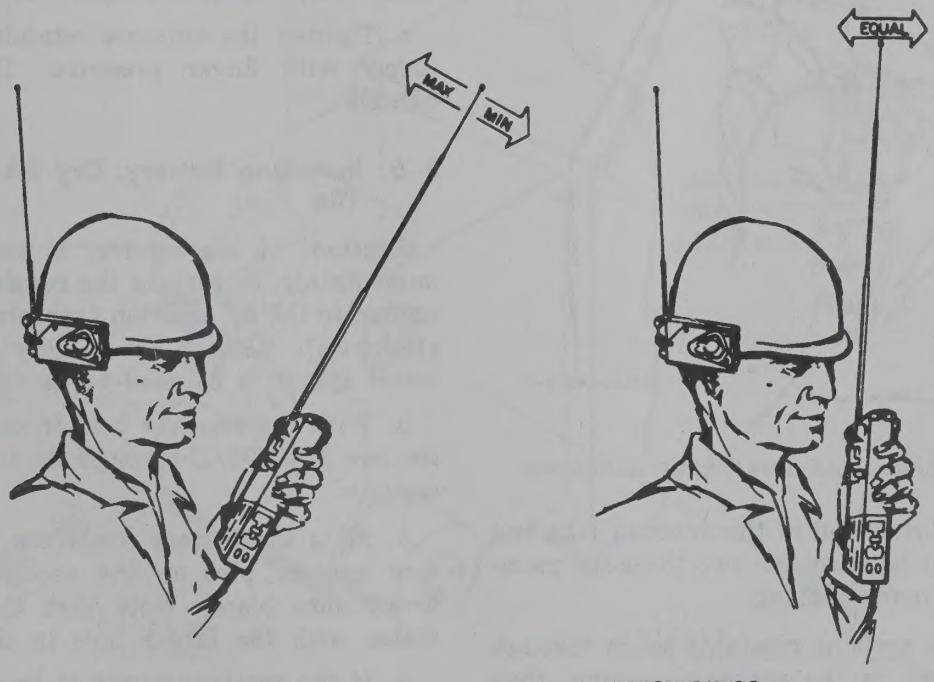

Figure 2–2. Effect of transmitter antenna angles.

that this screw has two sets of threads. The smaller threads fit the brass insert in the antenna housing. The larger threads fit the hole on the opposite side of the antenna housing.

Caution: **An antenna with two sets of blades (A, fig. 2-3.1) installed on the Receiving Set, Radio AN/PRR-9 or an antenna with a single set of blades, (B, fig. 2-3.1) improperly installed can possibly work loose from its locked in position and could result in poor reception and could also result in loss of the antenna. Earlier models of Antenna AS-1998/PRR-9 that contain two sets of blades should be returned to organizational maintenance for removal of one set of blades (para 5-11).**

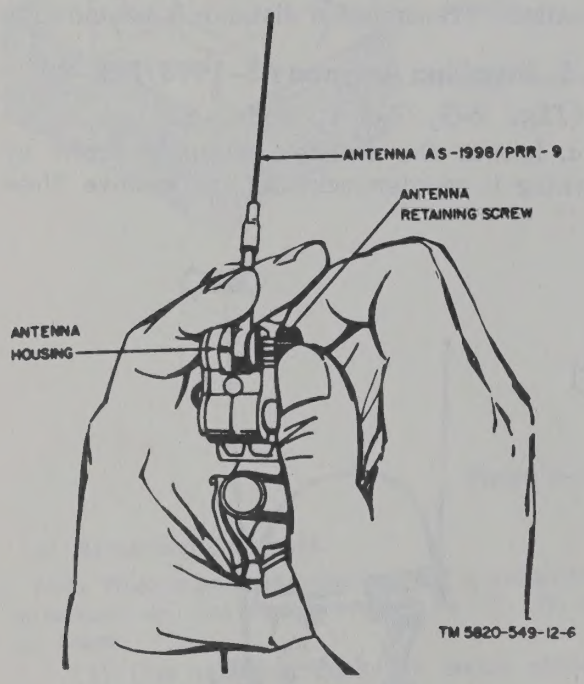

Figure 2-3. Antenna AS-1998/PRR-9, installation.

b. Fit the lower end of the antenna (the end with the hole) between the two threaded members of the antenna housing.

c. Place the antenna retaining screw through the larger hole in the antenna housing, then through antenna, and into the smaller hole in the antenna housing. Do not tighten.

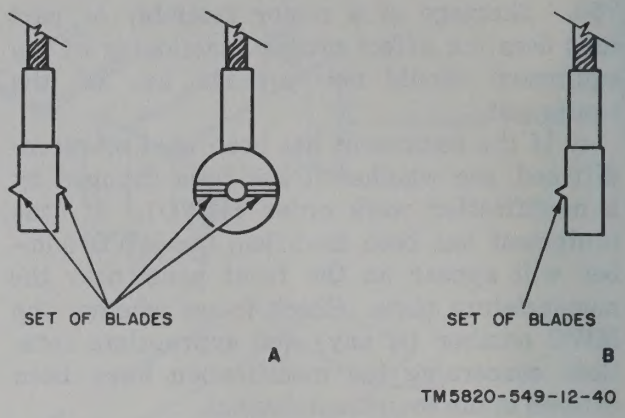

Figure 2-3.1. Edge views and face view, lower end of Antenna AS-1998/PRR-9

d. Rotate the antenna until the blades in the lower end of the antenna fit into the desired grooves in the brass insert of the antenna housing. If the receiver is to be worn on the helmet, the antenna should be perpendicular (at a right angle) to the long dimensions of the receiver. When the receiver is carried in a pocket, use the other set of grooves in the brass insert of the antenna housing. For best reception, the antenna should be positioned vertically with respect to the ground.

e. Tighten the antenna retaining screw securely with finger pressure. Do not overtighten.

2-6. Installing Battery, Dry BA-505/U (fig. 2-4)

Caution: **If the receiver is not to be used immediately, be certain the receiver control is turned to the off position (completely counterclockwise). Remove the battery when the receiver is not to be used for a day or more.**

a. With the receiver held in one hand, slide the new BA-505/U through the battery retaining clip.

b. Mate the battery connector with the battery contact pins on the receiver and push firmly into place. Note that the larger pin mates with the larger hole in the battery.

c. If the receiver is not to be used immediately, be sure the receiver control is in its maximum counterclockwise or off position.

2–7. Installing Battery, Dry BA–399/U (fig. 2–5)

a. Release the clamps on the battery case, and remove the battery case. If the antenna is in the way, pull it up until it clears the battery case clamp. Put the battery case aside.

b. Insert the new BA–399/U so that its connector fits the mating pins in the transmitter housing. Push the battery firmly into place.

c. Replace the battery case and fasten the clamps.

Caution: **Remove the BA–399/U when the equipment is not to be used for 1 day or more.**

2–8. Installation of Receiver Lanyard (fig. 3–1)

If the lanyard is to be used, put the loop end of the lanyard through the eyelet on the receiver. Pull the clasp end of the lanyard through this loop. Pull the loop tight. Attach the clasp end of the lanyard to the slide on the combat suspenders.

2–9. Installation of Transmitter Lanyard (fig. 3–2)

If the lanyard is to be used, place the loop end of the lanyard around the bale in the bottom of the transmitter battery case. Pull the

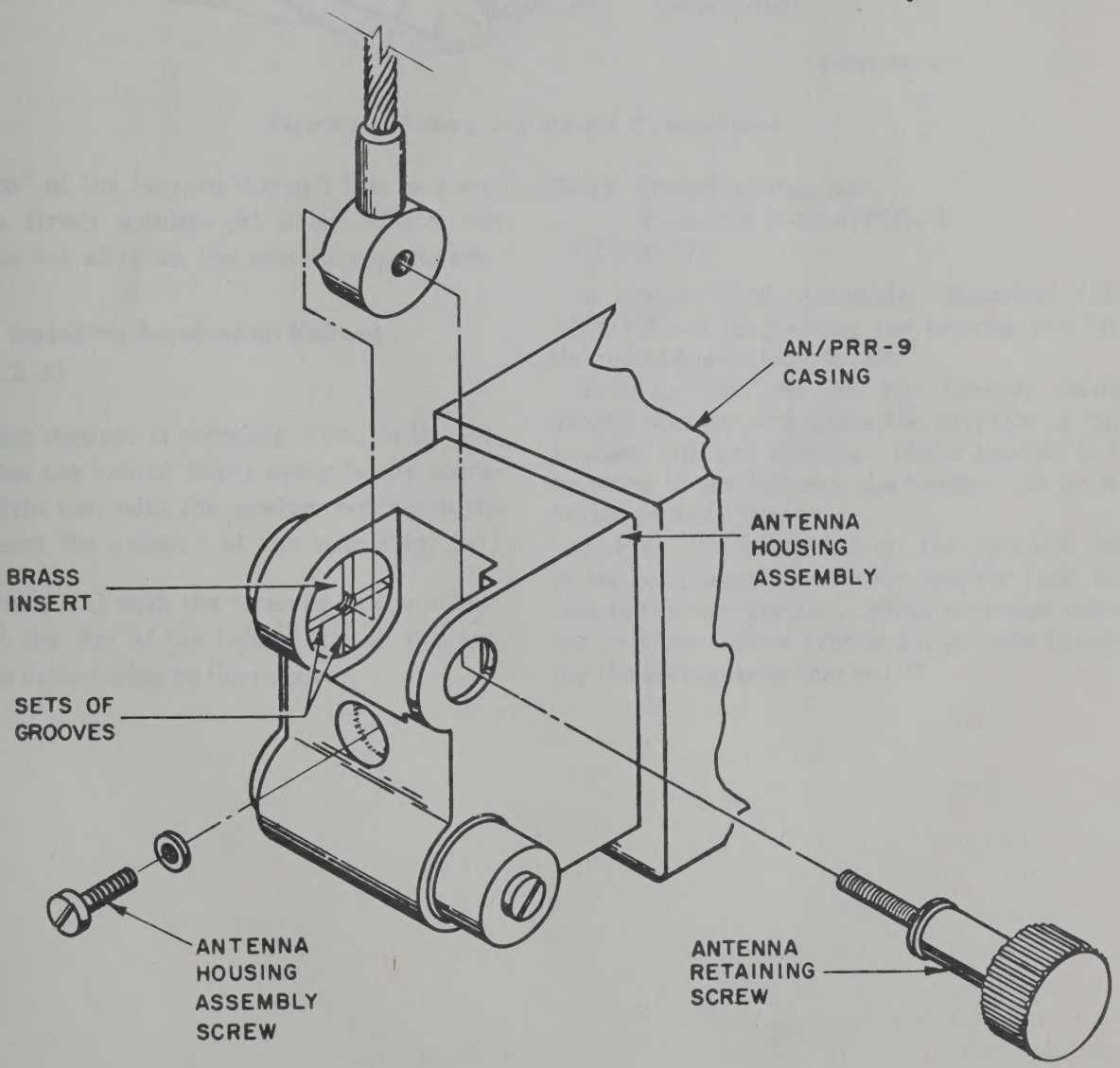

Figure 2–3.2. AN/PRR–9 antenna housing assembly and antenna installation detail.

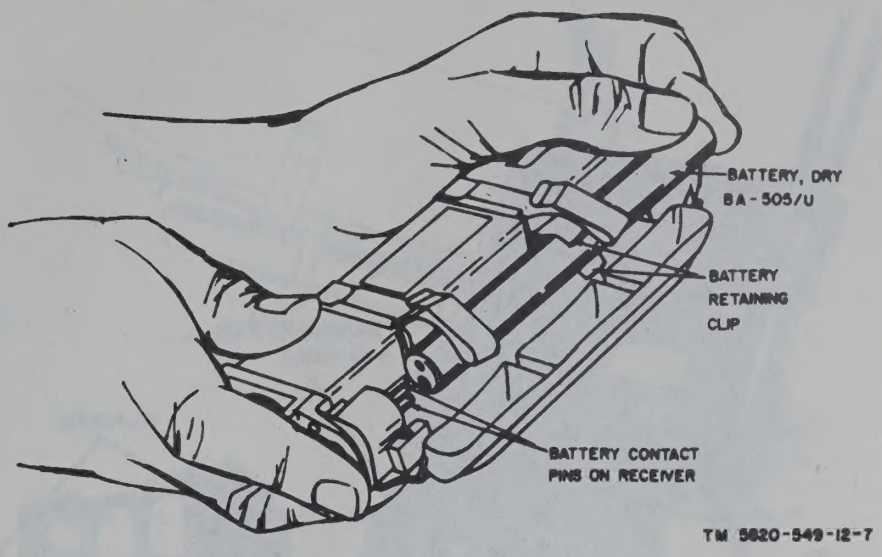

Figure 2–4. Battery, Dry BA–505/U, installation.

clasp end of the lanyard through this loop and tighten firmly against the bale. Attach the clasp to the slide on the combat suspenders.

2–10. Installing Receiver on Helmet (fig. 2–6)

a. The receiver is normally worn on the helmet (not the helmet liner) opposite the operator's right ear, with the receiver control in the front and the antenna at the rear (fig. 1–1)

b. Place and push the receiver on the helmet so that the rim of the helmet fits all the way into the helmet clips on the receiver.

2–11. Installing Headset, Electrical H–264/PRR–9 (fig. 2–7)

a. Install Cord Assembly, Electrical CX–1022/PRR–9 by pushing the two-pin end into the receptacle on the headset.

b. Loop the end of the headset holder around the ear and place the earpiece of the headset into ear opening. If the headset is to be worn in the left ear, the headset can be reversed in its holder.

c. Plug the connector on the opposite end of the cord assembly into the receiver jack. Access to the receiver jack, which is located below the receiver control (fig. 3–1), is made by lifting the spring cover marked "P".

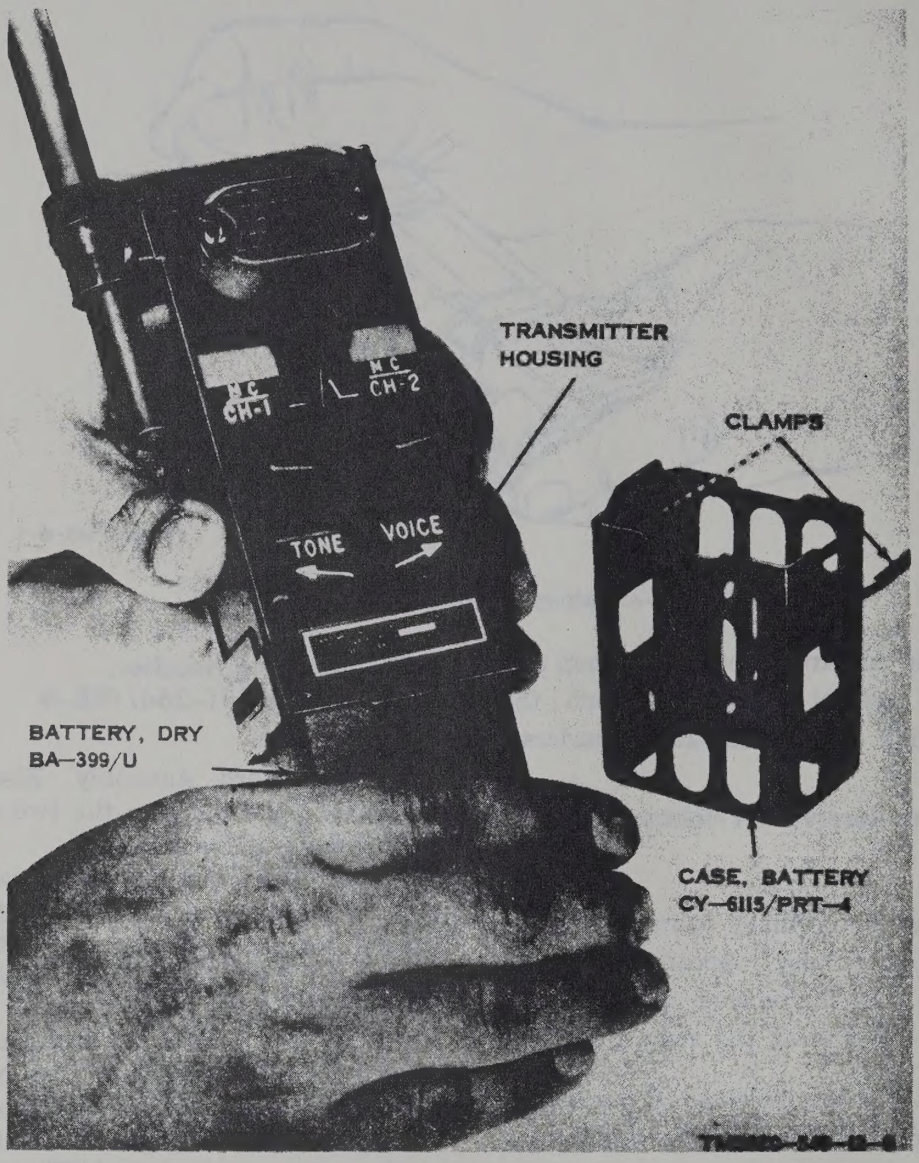

Figure 2-5. Battery, Dry BA-399/U, installation.

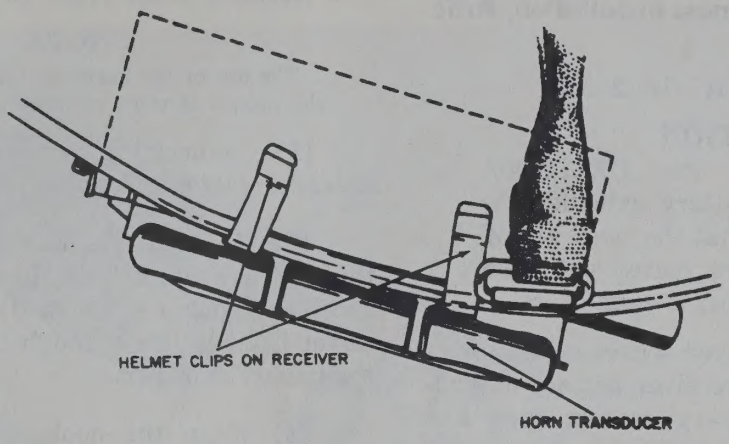

Figure 2-6. Receiving Set, Radio AN/PRR-9, installation on helmet.

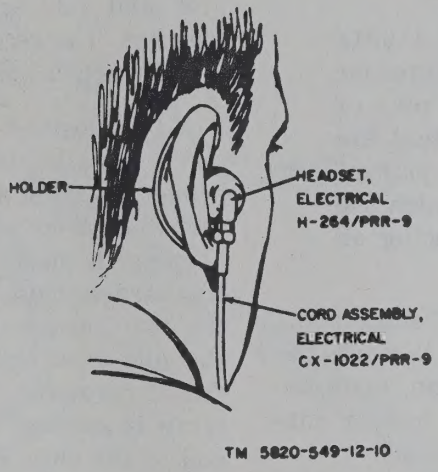

Figure 2-7. Headset, Electrical H-264/PRR-9, installation.

2-12. Battery and Harness Installation, Artic Conditions

a. Receiver Battery (A, fig. 2-8).

CAUTION

When connecting the CX-11990/PRR-9 receiver battery extender cable, make certain that the large pin of the plug connectors mates with the large hole of the socket connectors.

(1) Mate the receiver socket connector of the CX-11990/PRR-9 receiver battery extender cable with the battery contact pins and firmly push into place.

(2) Mate the battery plug connector with the battery socket and firmly push the two together.

b. Transmitter Battery (B, fig. 2-8).

CAUTION

When connecting the CX-11991/PRT-4 transmitter battery extender cable, make certain that the pair of pins on the plug connectors that are more distant that the other pair of pins on the same connector match the holes that have the same spacing on the socket connectors.

(1) With the CX-11991/PRT-4 transmitter battery extender cable, laced through the battery case in the correct direction, mate the transmitter socket connector with battery contact pins and firmly push in place.

(2) Mate the battery plug connector with the battery socket and firmly push the two together.

(3) Position the battery case for mounting to the transmitter case and secure in place with the clamps. The battery case becomes part of the transmitter antenna ground-plane.

c. Receiver Head Harness (fig. 2-9).

NOTE

The use of the harness is not required when the helmet is worn without a covering.

(1) Connect the receiver, receiver battery extender cable, and battery (*a* above).

(2) Position the receiver, with the side that exposes the helmet clips, toward the open receiver pouch (A, fig. 2-9) and hook the receiver helmet clips through the openings under the helmet clips belt.

(3) Wrap the hook area of the receiver pouch around the receiver (B, fig. 2-9) and firmly hold in position until the pile area of the receiver pouch is brought down over the receiver and firmly pressed against the hook area. All areas of contact between the hook area and pile area should be firmly pressed together. The receiver is now securely fastened in the receiver pouch.

(4) Position the harness, with the receiver installed in the receiver pouch, over the helmet covering (C, fig. 2-9) or whatever external head-covering is used, and secure the harness in place with the harness straps and the harness chin strap. The fastening affect of the two harness straps is made by contacting the pile area against the hook area and then firmly pressing the two together. The chin strap is secured in place by holding the loose end of the chin strap in one hand and pushing the lock in the direction of the chin.

(5) The unfastening of the pile and hook areas of contact can be done by peeling back one area from the other by starting the peeling at one of the edges of the contact area.

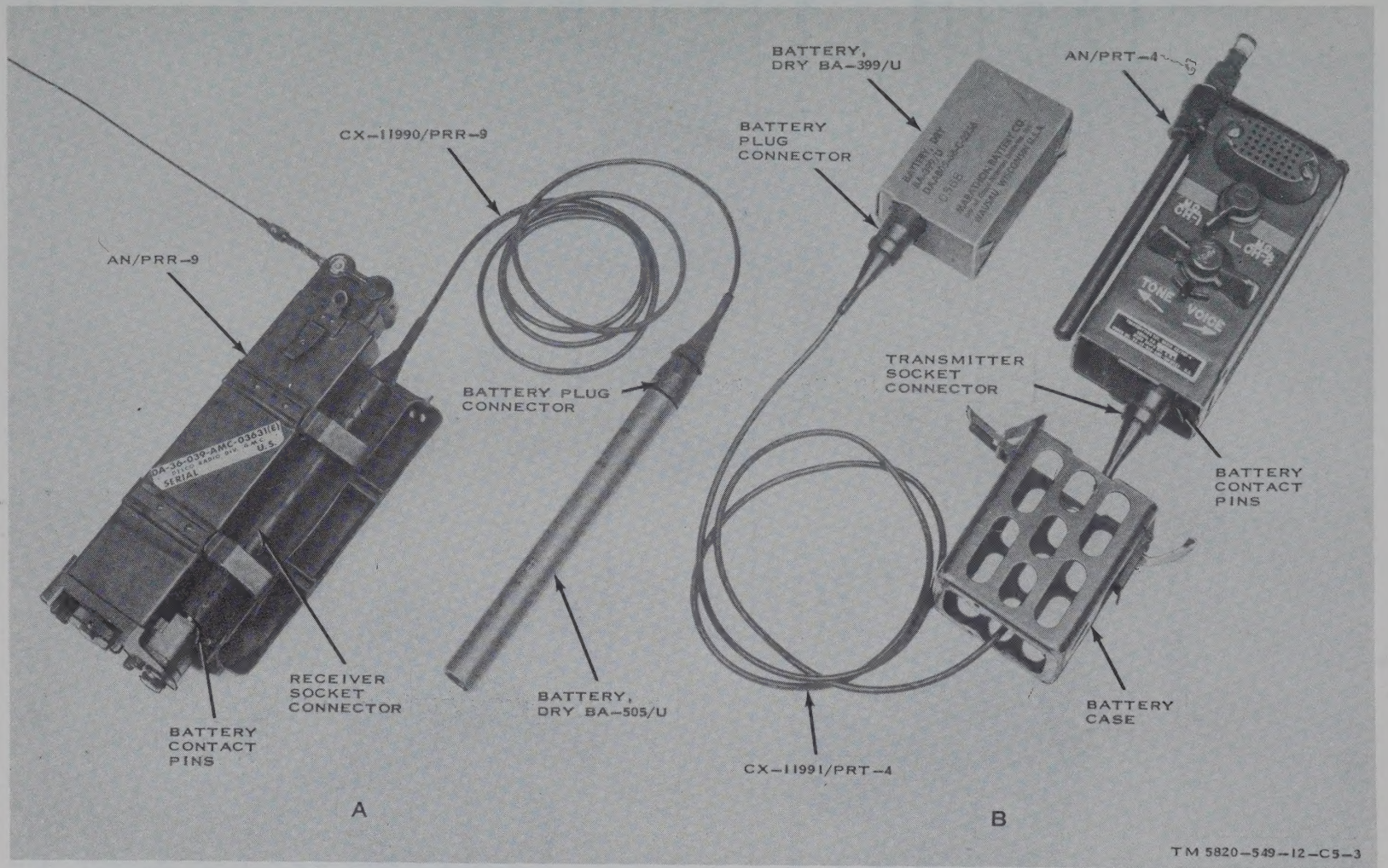

Figure 2-8. Battery extender cables installed.

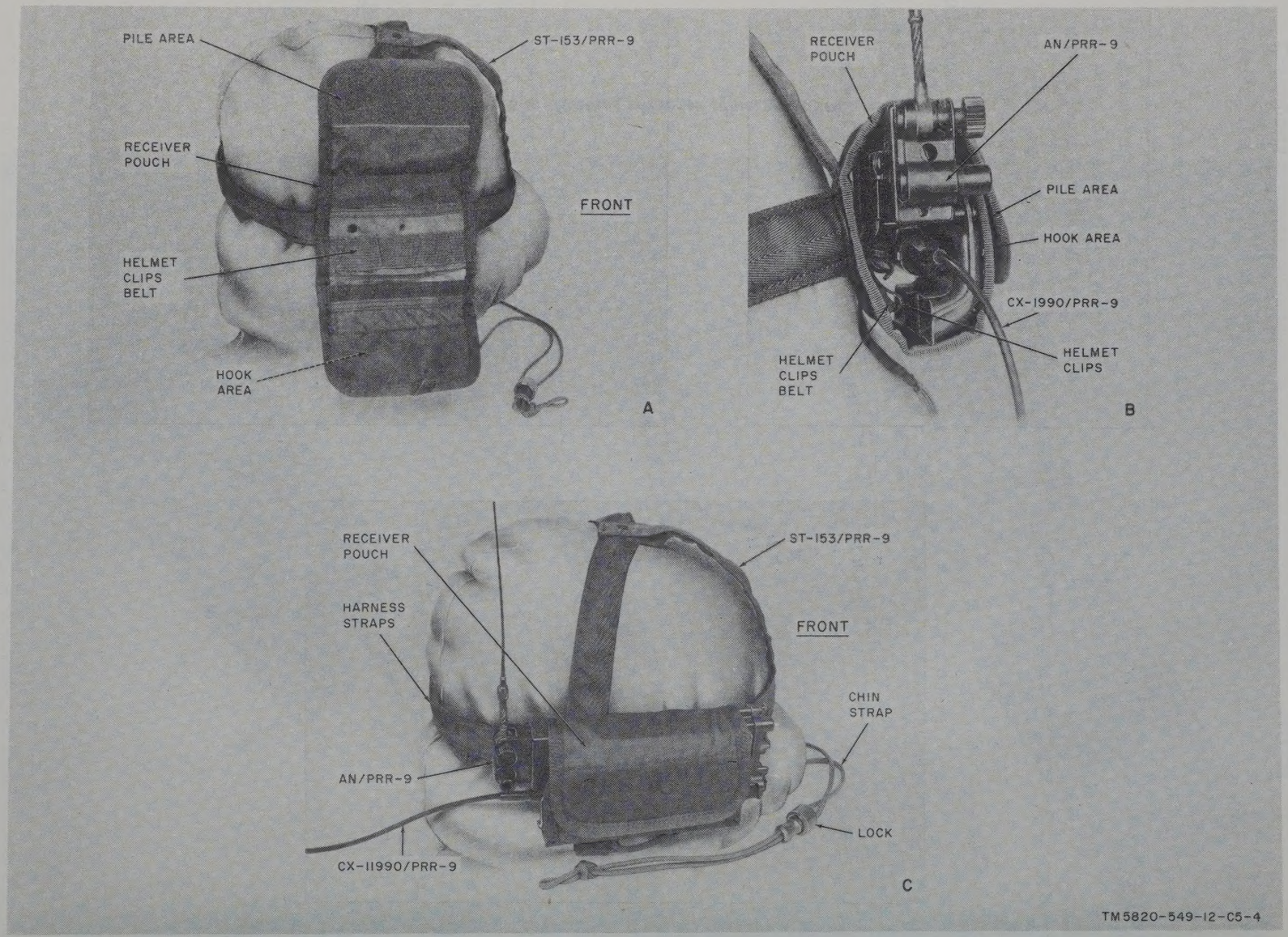

Figure 2-9. Receiver installation on ST-153/PRR-9 harness.

CHAPTER 3
OPERATING INSTRUCTIONS

3-1. Receiving Set, Radio AN/PRR-9 Control and Jack
(fig. 3-1)

Control or jack	Function
Receiver control	Turns off power and resets squelch action when in the OFF position. When turned away from OFF position, turns on power, adjusts volume, and controls squelch operation.
Headset jack	Connection for headset plug. Spring-loaded cover market with a "P."

3-2. Transmitting Set, Radio AN/PRT-4 Controls
(fig. 3-2)

Control	Function
CH-1—CH-2 selector switch.	Selects channel.
TONE-VOICE switch (spring-loaded 3-position switch).	POS — Function TONE[a] — Turns on transmitter and transmits audio tone when switch is turned and held in direction of TONE arrow. VOICE[a] — Turns on transmitter and permits voice transmission when switch is turned and held in direction of VOICE arrow. Center off position. — Turns transmitter off. Switch will return to this position if not held in TONE or VOICE position.
Override spring	TONE — Permits TONE-VOICE switch to be pushed only in the TONE direction. Center (detent). — Permits VOICE-TONE switch to be pushed in either direction. VOICE — Permits the TONE-VOICE switch to be pushed only in the VOICE direction.

[a] In addition, the AN/PRT-4A only, transmits a 150 cycle per second signal.

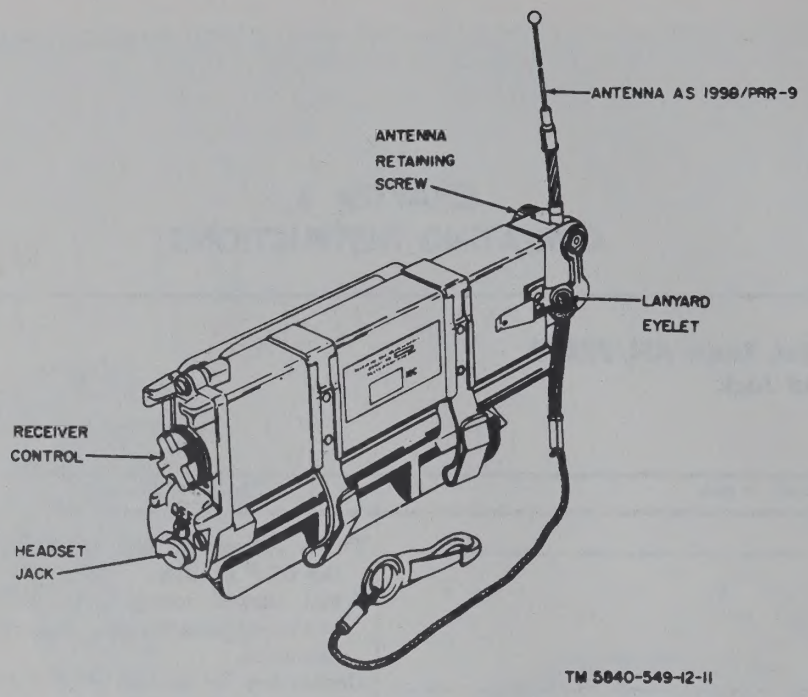

Figure 3-1. Receiving Set, Radio AN/PRR-9 control and jack.

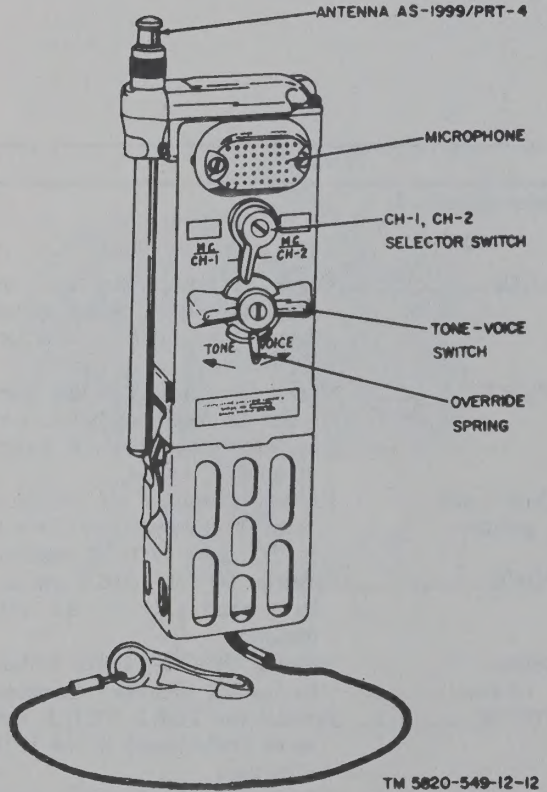

Figure 3-2. Transmitting Set, Radio AN/PRT-4 controls.

3-3. Receiver Operating Procedure (fig. 3-1)

a. Modes of Operation. The receiver may be operated with or without squelch. Squelched operation completely quiets the receiver so no noise is heard during the absence of a received signal. Unsquelched operation results in a hissing noise heard between transmissions. Unsquelched operation is used when receiver and transmitter are operating at maximum range or in unfavorable terrain (para 2-4).

b. Squelched Operation. Rotate the receiver control clockwise from its OFF position to a midposition. Upon receipt of a voice or tone transmission, adjust receiver control to a comfortable listening level. If receiver control is rotated fully clockwise, squelch action will be turned off and a loud hissing noise will be hear between transmissions. If received signals are intermittent, use unsequelched operation.

c. Unsquelched Operation. Rotate receive control completely clockwise from its OFF position. Rotate the receiver control counterclockwise to a comfortable listening level. When a voice or tone signal is heard, readjust

the receiver control for best volume. To turn squelch on again, turn receiver off by rotating receiver control completely counterclockwise to the OFF position, then back on to desired position.

d. Antenna Position. To change the position of the receiver antenna, loosen the antenna retaining screw (fig. 2–3), adjust the antenna to the desired position, and tighten the antenna retaining screw. Do not allow the antenna to touch the helmet during operation.

e. Headset Operation. When the headset cord plug is connected to the headset jack, the horn speaker is cut off. This operation may be used in noisy locations or for secure operations. See paragraph 2–11 for installation of headset.

3–4. Receiver Stopping Procedure (fig. 3–1)

Turn the receiver control completely counterclockwise to the OFF position. This turns off power to the receiver.

3–5. Recognition and Identification of Jamming

Under real or simulated tactical conditions, it is possible for the receiver to be jammed by the enemy. Jamming is easily done by transmission of a strong signal on the frequency you are using, which makes it difficult or impossible to hear the desired signal. Unusual noises or strong interference heard on the receiver may be enemy jamming, signals from a friendly station, noise from a local source, or a defective receiver. To determine whether the interference is originating in the receiver, remove the antenna (para 2–5). If the interference continues, the receiver is defective.

3–6. Antijamming

When jamming of a channel is first noticed, notify the superior officer immediately and continue to operate the equipment. To provide maximum intelligibility of jammed signals, try the suggestions given in *a*, *b*, and *c* below.

a. Vary the receiver volume by rotating the receiver control. Try unsquelched operation (para 3–3*c*). The level of the desired signal may be raised enough to be distinguished from the jamming signal.

b. Change the location so that nearby obstructions act as a screen in the direction of probable sites of enemy jamming transmitters. This screen action may also reduce the transmitted signal strength toward the enemy and thereby make it more difficult for him to intercept your signals. If possible, try several different locations within the designated area and stay at the one where jamming is minimum.

c. Use tone signals, if possible. These may come through the jamming enough to be understood.

3–7. Operating Receiver and Transmitter Under Arctic Conditions

a. Batteries. Dry batteries may fail or produce lower-than-normal voltages when exposed to below-freezing conditions. Preheat the battery by storage in a warm room or by holding it against the body. Batteries may be carried inside the operator's clothing and connected to the transmitter and receiver by use of the battery extender cables (para 2–12).

b. Transmitter. In extremely cold weather, coatings of frost may form on the microphone. This condition may affect the quality of communications, and in extreme conditions can permanently damage the microphone. To prevent such damage, do not shout directly into the microphone or hold the lips directly against the microphone.

c. Receiver. When arctic weather clothing requires a covering on the helmet, the operator can make use of the receiver head harness (para 2–12).

3–8. Transmitter Operating Procedure (fig. 3–2)

a. Modes of Operation. The transmitter provides either tone or voice signals on one or two channels. Channel 1 provides maximum power. Channel 2 provides from one-ninth to one-third the power output of channel 1. For proper operation, channel 2 must not be more than 1 mc above or 1 mc below the frequency

of channel 1. The distance between transmitter and receiver must be less for good channel 2 operation.

b. Channel Selection. Set the CH–1–CH–2 selector switch to the desired channel. Using a pencil, write the operating frequency in mc above the CH–1 position, and the corresponding operating frequency of the second channel above the CH–2 position.

c. Antenna.

(1) Raise the collapsible antenna to its full height.

CAUTION

Do not allow the antenna to touch the battery case clamp or the helmet during operation.

(2) To transmit a pattern of equal strength in all directions, keep the antenna vertical (fig. 2–2).

(3) To reduce strength in a given direction, hold transmitter so that the antenna is tilted at an approximate 45° angle toward the direction of transmission (fig. 2–2).

d. Override Spring. For normal operation of either voice or tone transmissions, set the override spring to its center (detent) position. If tone transmissions only are to be used, set the override spring to the TONE position. This will prevent accidently pushing the TONE–VOICE switch to the VOICE position. If only voice transmissions are to be used, set the override spring to the VOICE position. This will prevent accidental tone transmissions.

e. Voice Transmission. Press the TONE VOICE switch in the direction of the VOICE arrow. Speak into the microphone in a normal tone of voice with lips about 1 inch from microphone.

f. Tone Transmissions. Press the TONE–VOICE switch in the direction of the TONE arrow, and hold it in that position for the desired length of tone.

3–9. Transmitter Stopping Procedure

a. Release the TONE-VOICE switch.

b. If the transmitter will not be used for some time, collapse the antenna by pushing it all the way down.

CHAPTER 4
OPERATOR'S MAINTENANCE INSTRUCTIONS

4–1. Scope of Operator's Maintenance

The maintenance duties assigned to the operator of the AN/PRR–9 and the AN/PRT–4 are listed below, together with a reference to the paragraphs covering specific maintenance functions. The duties assigned do not require tools or test equipment.

a. Operator's daily preventive maintenance checks and services (para 4–4)

b. Troubleshooting (para 4–6).

c. Replacement of Battery, Dry BA–505/U (para 4–7).

d. Replacement of Battery, Dry BA–399/U (para 4–8).

4–2. Operator's Preventive Maintenance

Operator's preventive maintenance is the systematic care, servicing, and inspection of equipment to prevent the occurrence of trouble, to reduce downtime, and to assure that the equipment is serviceable.

a. Systematic Care. The procedures given in paragraphs 4–3, 4–4, and 4–5 cover systematic care essential to proper upkeep and operation of the equipment.

b. Maintenance and Service Inspection. The preventive maintenance checks and services chart (para 4–4) outlines functions to be performed at specific intervals. These checks and services are to maintain Army electronic equipment in combat-serviceable condition; that is, good general (physical) condition and in good operating condition. To assist operators in maintaining combat serviceability, the charts indicate what to check, how to check, and the normal conditions; the *References* column lists the illustration or paragraph that contains instructional information. If the defect cannot be remedied by the operator, higher category maintenance or repair is required. Records of these checks and services must be made in accordance with the requirements set forth in TM 38–750.

4–3. Operator's Preventive Maintenance Checks and Services Periods

Operator's preventive maintenance checks and services of the AN/PRR–9 and AN/PRT–4 is required on a daily basis. Paragraph 4–4 specifies the checks and services that must be accomplished daily and under the conditions listed below:

a. Before the equipment is used when starting on a mission.

b. When a mission is completed.

c. At least once each week if the equipment is kept in a standby condition

4–4. Operator's Daily Preventive Maintenance Checks and Services Chart

a. Receiving Set, Radio AN/PRR–9.

Caution: Disconnect the battery and wipe the pins of the battery plug connector of the transmitter or receiver if the equipment is accidentally subjected to immersion in brackish (salt) water. The wiping should be done within an hour after reimmersion to halt the electrolytic corrosion of the pins and battery socket terminals.

Sequence No.	Item to be inspected	Procedure	References
1	Receiver	Clean external surface of receiver	Para 4–5.
2	Antenna	Check to see that antenna is straight and unbroken or bent and that retaining screw is tight.	Para 2–5.
3	Horn transducer	Check to see that horn transducer is free from dust and dirt.	Para 4–5.

Sequence No.	Item to be inspected	Procedure	References
4	Headset	Check earpiece and cord for cracks and breaks **Caution** **Disconnect the battery when it is known that the equipment will not be used for 1 day or more.**	Fig 1–2.
5	Battery	Check for leakage, corrosion, or swelling. Replace if necessary.	Para 4–7.
6	Lanyard	Check lanyard for frayed or broken cord	Para 2–8.
7	Receiver control	While making operating check, (item 8), check control to make certain switch action is positive and control is smooth and free of external or internal binding.	Fig. 3–1.
		OPERATION	
8	Receiver control	*a. Without a signal transmitted.* Turn receiver control completely clockwise. Rushing noise is heard in horn speaker. *b. Unsquelched Operation.* With a good transmitter operating in the near vicinity (approximately 100 feet away) at the same frequency as the receiver, turn receiver control until a comfortable listening level is heard. (1) Test transmission is heard loud and clear when transmission operator speaks in VOICE operation. (2) Rushing noise is heard in between transmissions. (3) A continuous tone is heard when transmission operator transmits tone signal. (4) Rushing noise is heard in between tone signal transmissions. *c. Squelched Operation.* Turn receiver control completely counterclockwise to OFF position, then turn receiver control to approximately one half of total range. When signal is heard, adjust the receiver control for a comfortable listening level. (1) Test transmission is heard loud and clear when transmission operator speaks on VOICE operation. No rushing noise is heard between transmissions. (2) A continuous tone is heard when transmitter operator transmits tone signals. No rushing noise is heard between transmissions. *d. Headset Use.* Repeat the procedure in *c* above with headset plugged into headset jack. Same results should be obtained.	Para 4–6.

b. Transmitting Set, Radio AN/PRT–4.

Sequence No.	Item to be inspected	Procedure	References
1	Transmitter	Clean external surface of transmitter	Para 4–5.
2	Antenna	Check to see that antenna raises and collapses smoothly.	Fig. 1–3.
3	Battery	Check for leakage, corrosion, or swelling. Replace if necessary.	Para 4–8.
4	CH–1—CH–2 selector switch.	Check switch action for smooth and positive action while making operating check (item 7).	Fig. 3–2.
5	TONE-VOICE switch	Check switch for positive spring-load action while making operating check (item 7).	Fig. 3–2.
6	Override spring	*a.* Check switch for smooth and positive action while making checks in *b* and *c* below.	Fig. 3–2.

Sequence	Item to be inspected	Procedure	References
		b. Set override spring in TONE position. CH-1—CH-2 selector switch is limited to TONE position only when pressed.	
		c. Set override spring in VOICE position. CH-1—CH-2 selector switch is limited to VOICE position only when pressed.	
		d. Set override spring to center position. CH-1—CH-2 selector switch can be set to either TONE or VOICE position when pressed.	
		OPERATION	
7	Preliminary	Position an operator with two known good receivers for various operations at a distance of approximately 100 feet. One receiver must be set for the same frequency as transmitter CH-1 channel and the other receiver set must be set for the same frequency as transmitter CH-2 channel. The operator of the receivers will control the receivers as necessary to check transmitter signals.	
8	TONE-VOICE switch.	Set CH-1—CH-2 selector switch in CH-1 position and set override spring in center position.	Para 4-6.
		a. Press TONE-VOICE switch into TONE position. A test tone, loud and clear, is heard in receiver.	
		b. Press TONE-VOICE switch into VOICE position and speak into microphone. A voice is heard loud and clear on receiver.	
		c. Repeat the instructions in *a* and *b* above with the CH-1—CH-2 selector switch in the CH-2 position. The second receiver should obtain the same results indicated in *a* and *b* above.	

4-5. Cleaning

Inspect the exterior surfaces of the transmitter and receiver The exterior surfaces should be free of dust, dirt, grease, and fungus.

a. Remove dust and dirt with a clean, soft cloth.

(1) Tap bottom of horn transducer of the receiver to loosen any dirt which may have become lodged in the horn transducer.

(2) Tap the transmitter microphone gently against the hand to loosen any dirt which may have become lodged in the perforations in the microphone.

Warning: **Prolonged breathing of cleaning compound is dangerous; make certain that adequate ventilation is provided. Cleaning compound is flammable; do not use near a flame. Avoid contact with the skin; wash off any that spills on your hands.**

b. Remove grease fungus and ground-in dirt from the receiver and transmitter; use a cloth dampened (not wet) with cleaning compound (FSN 7930-395-9542).

c. Remove dust and dirt from plugs and receptacles.

d. Clean the receiver control and transmitter controls with a soft cloth. If dirt is difficult to remove, dampen (not wet) the cloth with mild soap and water.

4-6. Operator's Troubleshooting Chart

a. Receiving Set, Radio AN/PRR-9.

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	No rushing noise is heard when receiver control is turned completely clockwise.	Defective battery --	*a.* Replace battery (para 4-7). *b.* Check installation of antenna (para 2-5). *c.* If trouble is not corrected, higher category of maintenance repair is required.
2	Signal is weak or is not heard when checked as in paragraph 4-4*a*, item 7*b*.	Defective battery --	Repeat the instructions in *a*, *b*, and *c* above as required.

b. Transmitting Set, Radio AN/PRT-4.

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
1	Signal is weak or is not heard at all when the transmitter is tested under conditions of paragraph 4-4*b*, item 8.	*a.* Incorrect setting of controls. *b.* Antenna not extended. *c.* Defective battery *d.* Other ----------	*a.* Check setting of controls (para 3-8). *b.* Extend antenna. *c.* Replace battery (para 4-8). *d.* If trouble is not corrected, higher category of maintenance repair is required.

4-7. Replacement of Battery, Dry BA-505/U

(fig. 2-4)

a. Hold the receiver in one hand and with the other hand, pull out the old BA-505/U.

b. Slide the new BA-505/U through the battery retaining clip and mate the battery connector with the battery contact pins on the receiver. Note that the larger pin mates with the larger hole in the battery.

4-8. Replacement of Battery, Dry BA-399/U

(fig. 2-5).

a. Release the clamps on the battery case and remove the battery case. If the antenna is in the way, pull it up until it clears the battery case clamp. Put the battery case aside.

b. Remove and discard the old BA-399/U.

c. Insert the new BA-399/U so that its connector fits the mating pins in the transmitter housing. Push battery firmly into place.

d. Replace battery case and fasten clamps.

CHAPTER 5
ORGANIZATIONAL MAINTENANCE INSTRUCTIONS

5–1. Scope of Organizational Maintenance

a. This chapter covers organizational maintenance, including the changing of channel frequencies of Receiving Set, Radio AN/PRR–9 and Transmitting Set, Radio AN/PRT–4. Also included are instructions for performing preventive maintenance, alignment required when changing channels, and repair which can be accomplished by the organizational repairman. No lubrication is required at organizational maintenance.

b. Organizational maintenance includes:

(1) Preventive maintenance (para 5–3 5-4, and 5-5).
(2) Replacement of AN/PRR-9 antenna housing assembly (para 5-27).
(3) Replacement of AN/PRT-4 antenna base assembly (para 5-22).
(4) Replacement of receiver Antenna AS –1998/PRR–9 (para 5–11)
(5) Replacement of transmitter Antenna AS–1999/RT–4 (para 5–12).
(6) Replacement of receiver control knob (para 5–13).
(7) Replacement of transmitter CH–1—CH–2 selector switch knob (para 5–14).
(8) Replacement of transmitter TONE-VOICE switch knob (para 5–15).
(9) Battery testing (para 5–16).
(10) Changing channel frequencies (para 5–17).
(11) Alignment of transmitter and receiver (para 5–18).
(12) Cleaning microphone (para 5-20).

5–2. Materials, Tools, and Test Equipment Required

The materials, tools, and test equipment required for organizational maintenance are as follows:

a. Indicator, Channel Alignment ID-1189/PR (TM 11-6625-937-12).

b. Cleaning compound (Federal stock No. 7930–395–9542).

c. Tool Kit, Operations Central TK–101/G.

5–3. Organizational Preventive Maintenance

a. Preventive maintenance is the systematic care, inspection, and servicing of the equipment to maintain it in a serviceable condition, to prevent breakdowns, and to assure maximum operational capability. Preventive maintenance is the responsibility of all categories of maintenance concerned with the equipment and includes the inspection, testing, and repair or replacement of parts, subassemblies, or units that inspection and test indicate would probably fail before the next scheduled periodic service. Preventive maintenance checks and services of the AN/PRT–4 and AN/PRR–9 at organizational maintenance are made at monthly intervals unless otherwise directed by the commanding officer.

b. Maintenance forms and records to be used and maintained on the equipment are specified in TM 38–750.

5–4. Organizational Monthly Maintenance

Perform the maintenance functions indicated on the monthly preventive maintenance checks and services chart (para 5–5) once each month. A month is defined as approximately 30 calendar days at 8-hour per day operation. If the equipment is operated 16 hours a day, the monthly preventive maintenance checks and services should be performed at 15-day intervals. Adjustment of the maintenance interval must be made to compensate for any unusual operating conditions. Equipment maintained in a standby (ready for immediate operation)

condition must have monthly preventive maintenance checks and services performed on it. Equipment in limited storage (requires service before operation) dose not require monthly preventive maintenance.

5–5. Organizational Monthly Preventive Maintenance Checks and Services Chart

The following chart covers both Receiving Set, Radio AN/PRR–9 and Transmitting Set, Radio AN/PRT–4:

Sequence No	Item to be inspected	Procedure	References
1	Completeness	See that the equipment is complete	App. B.
2	Preservation	Check all surfaces for evidence of fungus. Remove rust spots and corrosion and spot paint bare spots.	Para 5–6.
3	Publications	See that all publications are complete, serviceable, and current.	DA Pam 310–4.
4	Modifications	Check DA Pam 310–7 to determine if new applicable MWO's have been published. All MWO's must be applied.	TM 38–750 and DA Pam 310–7.
5	Batteries	Check batteries used in alignment indicator	Para 5–16.
6	Transmitter and receiver.	Complete operational checks are covered in operator's daily preventive maintenance checks and services chart.	Para 4–4.

5–6. Touchup Painting

Clean all damaged surface of the equipment. Touch up the damaged paint on metal surfaces. For detailed cleaning and refinishing practices, refer to TB SIG 364. Refer to TM 9–213 for care of painting equipment.

5–7. Organizational Troubleshooting

a. General. Troubleshooting of this equipment is based upon the operational checks in the operator's daily preventive maintenance checks and services chart (para 4–4). To troubleshoot the equipment, perform all procedures starting with item 7, paragraph 4–4a for the receiver and starting with item 7, paragraph 4–4*b* for the transmitter. Follow the procedures until an abnormal condition or symptom is observed. Perform the checks and corrective measures indicated in the troubleshooting charts for the receiver and transmitter. If the corrective measures do not result in correction of the trouble, higher category maintenance is required. The listed checks and corrective measures in the organizational troubleshooting chart supplement those that appear in the operator's troubleshooting chart (para 4–6).

Item No.	Trouble symptom	Probable trouble	Checks and corrective measures
		RECEIVER	
1	Signal is weak or not heard when checked as in item 8, paragraph 4–4a.	a. Defective antenna.	a. Check antenna (item 2, para 4–4a) and replace defective antenna para 5–11).
		b. Improperly aligned receiver.	b. Align receiver (para 5–18).
		c. Cracked antenna housing assembly.	c. Replace antenna housing assembly (para 5–21).
2.	Adjustment of antenna loading coil during alignment procedures produces no results.	Defective antenna base assembly.	Replace antenna housing assembly (para 5–21).
		TRANSMITTER	
3	Signal is weak or not heard when the transmitter is checked as in item 8, paragraph 4–4b.	a. Defective antenna.	a. Check antenna (item 2, para 4–4a) and replace defective antenna (para 5–12).
		b. Defective microphone.	b. Clean microphone (para 5–20).
		c. Improperly aligned transmitter.	c. Align transmitter (para 5–18).
		d. Cracked antenna base assembly.	d. Replace antenna base assembly (para 5–22).
4	Adjustment of loading coil during alignment procedures produces no results.	Defective antenna base assembly.	Replace antenna base assembly (para 5–22).

5–8. Repair

The components listed in appendix B are the items of the AN/PRR–9 and AN/PRT–4 that may be replaced by organizational personnel. Instructions for these repairs are given in chapter 4 and in paragraphs 5–11 through 5–15.

5–9. Deleted

5–10. Deleted

5–11. Replacement of Antenna AS–1998/PRR–9

(fig. 2–3)

a. Loosen antenna retaining screw, and remove screw from antenna housing. Note that this screw has two sets of threads. The smaller threads fit the brass insert in the antenna housing. The larger threads fit the hole on the opposite side of the antenna housing.

b. Remove and discard the defective antenna. If the new antenna is an early model that contains two sets of blades (A, fig. 2–3.1), remove one set of blades by filing them off completely. Make certain that all filings are removed from the antenna before it is installed.

c. Fit the lower end of the antenna (the end with the hold) between the two threaded members of the antenna housing. Make certain the antenna set of blades (B, fig. 2–3.1) faces the antenna housing brass insert set of grooves (fig. 2–3.2).

d. Place the antenna retaining screw through the larger hole in the antenna housing, then through antenna, and into the smaller hole in the antenna housing. Do not tighten.

e. Rotate the antenna until the blades on the lower end of the antenna fit into the desired grooves in the brass insert of the antenna housing.

f. Tighten the antenna retaining screw securely with finger pressure. Do not overtighten.

5–12. Replacement of Antenna AS–1999/PRT–4

(fig. 5–3)

a. Unscrew antenna retaining screw and pull out defective antenna through top of transmitter antenna housing.

b. Place new antenna down through hole in antenna housing from top.

c. Tighten antenna retaining screw of new antenna finger tight. Do not overtighten.

5-13. Replacement of Receiver Control Knob (fig. 5-5)

a. With hexagonal socket key (Allen wrench) for a No. 4 setscrew, loosen two setscrews in receiver control knob.

b. Remove old knob by pulling straight off.

c. With pliers, carefully turn shaft of receiver control maximum counterclockwise.

d. Loosen setscrews on new knob, so the knob will fit on receiver control shaft.

e. Place white pointer on new knob opposite the center of the word OFF on front of receiver. Tighten one setscrew.

f. Rotate receiver control to provide access to the second setscrew. Tighten setscrew.

g. Check rotation of the receiver control to be sure knob does not rub against receiver housing at any point. If knob rubs, loosen setscrews and raise knob slightly away from receiver housing. Tighten setscrews and recheck operation.

5-14. Replacement of Transmitter CH-1-CH-2 Selector Switch Knob (fig. 5-2)

a. Remove slotted screw in top of switch knob with a screwdriver.

b. Remove old knob and place new knob on switch shaft. Note that the shaft is flatted and knob can fit only one way.

c. Replace and tighten screw. Check switch operation.

5-15. Replacement of Transmitter TONE-VOICE Switch Knob (fig. 5-2)

a. Remove slotted screw in top of switch knob with a screwdriver.

b. Carefully pry off old knob; be careful not to lose the compression spring and override spring.

c. Place new knob on switch shaft. Refer to figure 5-2 for correct placement of parts under knob and correct knob position.

d. Replace and tighten screw. Check operation of switch knob and override spring.

5-16. Battery Testing

Battery, Dry BA-505/U and Battery, Dry BA-399/U may be tested in Indicator, Channel Alignment ID-1189/PR. For testing purposes the batteries are first removed from the equipment (para 4-7 and 4-8). Specific instructions for battery testing are covered in TM 11-6625-937-12.

5-17. Changing Channel Frequencies

a. General. The frequency of operation of both the AN/PRR-9 and AN/PRT-4 can be changed by replacing the pluck-out crystals with crystals for the new channels and realigning the equipment. The AN/PRR-9 has one pluck-out crystal to change. The AN/PRT-4 has one pluck-out crystal to change for each of its two channels. Instructions for changing crystals are given in *e* and *f* below. Instructions for alignment are given in paragraph 5-18.

b. Determining Crystal Frequency. Both the AN/PRR-9 and AN/PRT-4 use Crystal CR-81/PU. For both equipments, the crystal frequency, which is marked on the crystal, is 10. mc below the channel or operating frequency. To compute the crystal frequency, determine the desired channel frequency and subtract 10.7 mc.

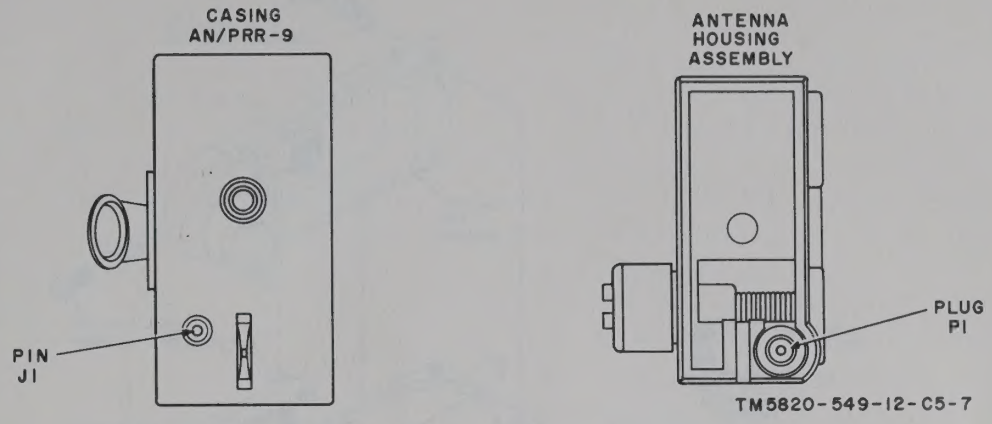

Figure 5–1. Mounting faces of AN/PRR–9 casing and antenna housing assembly.

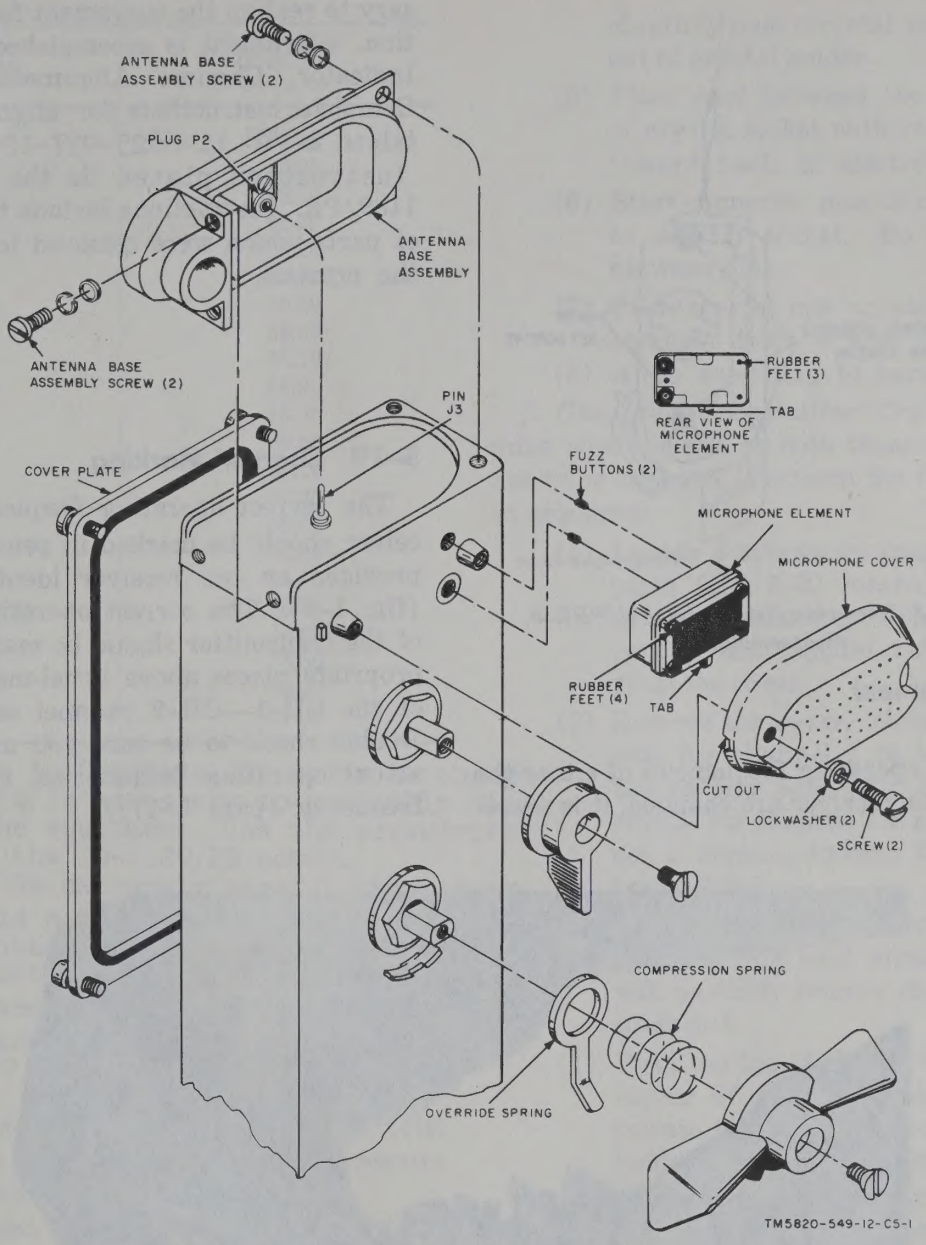

Figure 5-2. Transmitting Set, Radio AN/PRT-4, parts replacement.

Example:

Channel frequency desired ---------- 53.9 mc
Subtract 10.7 mc ----------10.7 mc

Correct crystal frequency -------- 43.2 mc

Correct crystal frequencies may also be obtained by consulting the chart in *c* below.

c. Crystal Selection Chart for AN/PRR-9 and AN/PRT-4.

Crystal marking (mc) (osc freq)	Corresponding RF channel frequency (mc)
36.30	47.00
36.40	47.10
36.50	47.20
36.60	47.30
36.70	47.40
36.80	47.50
36.90	47.60
37.00	47.70

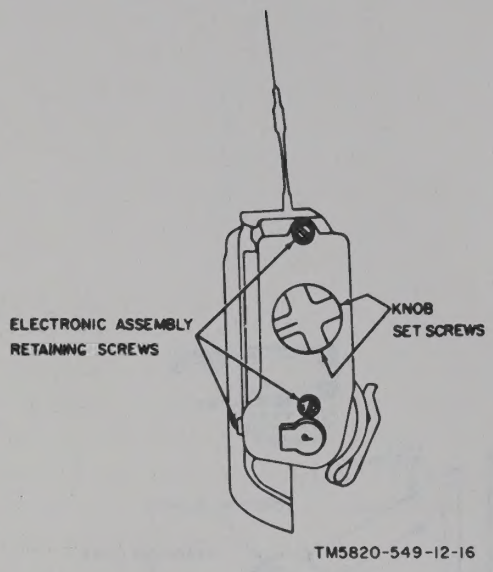

Figure 5–5. Receiving Set, Radio AN/PRR–9, disassembly.

5–18. Alignment

Whenever operating frequencies of either the transmitter or receiver are changed, it is necessary to realign the equipment for proper operation. Alignment is accomplished by the use of Indicator, Channel Alignment ID–1189/PR. Complete instructions for alignment are contained in TM 11-6625-937-12 as well as in instruction plates in the lid of the ID–1189/PR. Instructions include the replacement of parts which were removed to gain access to the crystals.

5–19. Channel Marking

The correct operating frequency of the receiver should be marked in pencil in the space provided on the receiver identification plate (fig. 1–2). The correct operating frequencies of the transmitter should be marked in the appropriate places above panel-marked positions of the CH–1—CH–2 channel selector switch. Double check to be sure you are writing the actual operating frequencies, not the crystal frequency (para 5–17*c*).

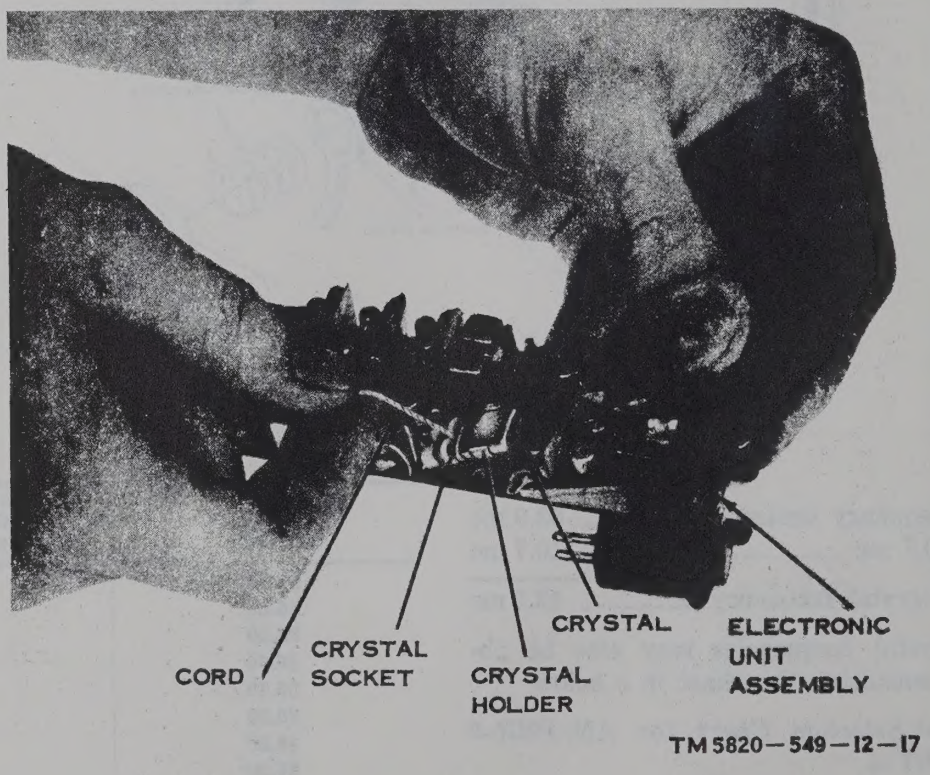

Figure 5–6. Receiving Set, Radio AN/PRR–9, crystal removal.

Crystal marking (mc) (osc freq)	Corresponding RF channel frequency (mc)
44.20	54.90
44.30	55.00
44.40	55.10
44.50	55.20
44.60	55.30
44.70	55.40
44.80	55.50
44.90	55.60
45.00	55.70
45.10	55.80
45.20	55.90
45.30	56.00
45.40	56.10
45.50	56.20
45.60	56.30
45.70	56.40
45.80	56.50
45.90	56.60
46.00	56.70
46.10	56.80
46.20	56.90
46.30	57.00

d. Access to Crystals. In order to change crystals, it is necessary to partially disassemble the equipment. Use the screwdriver located in the ID-1189/PR cover.

Caution: Be extremely careful when changing crystals not to disturb any other parts on the printed circuit boards. Make certain receiver control panel gasket is in place before reassembly of electronic assembly and receiver case.

e. Changing Receiver Crystal (figs. 5-5 and 5-6).

(1) Hold the receiver in one hand (fig. 2-4) and with the other hand remove the battery.

(2) Loosen two electronic assembly retaining screws from front panel (fig. 5-5). These are captive screws and should not be completely removed. Remove one electronic assembly retaining screw that holds horn transducer to electronic assemly front plate.

(3) Pull electronic assembly out of receiver case.

(4) Pull cord up against bottom of crystal, and with cord, pull crystal up out of crystal socket as far as it will come. With thumbnail under top of crystal, carefully push crystal completely out of crystal holder.

(5) Place cord between the two contacts of crystal socket with free end of cord toward back of electronic assembly.

(6) Start connector pins of new cryatsl into crystal socket. Be sure cord is between pins.

(7) Push crystal into crystal holder, then straight down to seat pins in socket.

(8) Align according to paragraph 5-18.

f. Changing Transmitter Crystals. Determine whether one or both transmitter crystals are to be changed. Perform the following steps in sequence:

(1) Loosen 4 screws on transmitter cover plate (fig. 5-2) located on the back of the transmitter. The screws are captive and should not be removed from the cover.

(2) Remove the cover. Note that the crystal for channel 1 is located toward the battery case (fig. 5-7), and the crystal for channel 2 is above the channel 1 crystal, toward the top of the transmitter.

(3) Locate the desired crystal (fig. 5-7) and pull the cord straight up. This will partially remove the crystal from its socket.

(4) Push the top of the crystal toward the center of the electronic assembly to release the crystal from the crystal holder, and remove the crystal.

(5) Place the cord between the two contacts of the crystal socket, with free end of cord toward the center of the electronic assembly.

(6) Start connector pins of new crystal into crystal socket, with the top of the crystal angled toward the center of the electronic assembly and away from the crystal holder. Be sure cord is between crystal pins.

(7) Push crystal into crystal holder, then straight down to seat pins in socket.

(8) Align transmitter according to paragraph 5-18.

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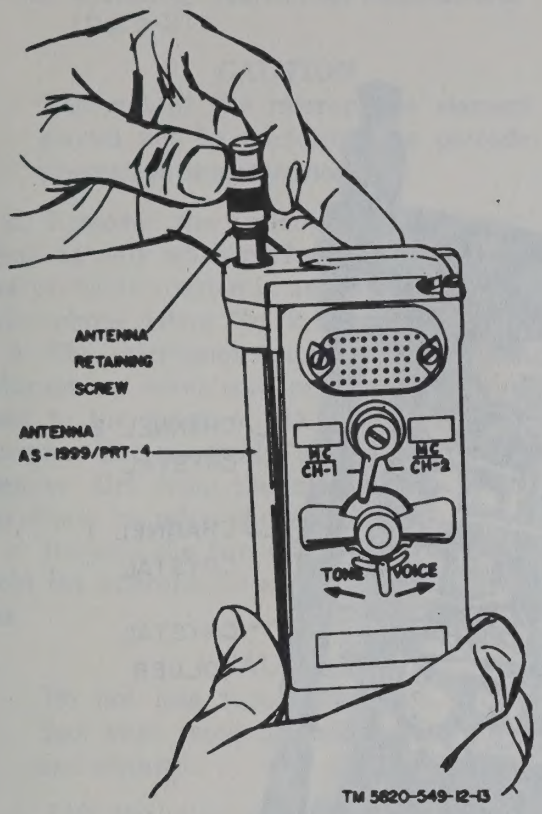

Figure 5-3. Antenna AS-1999/PRT-4, replacement.

Crystal marking (mc) (osc freq)	Corresponding RF channel frequency (mc)
37.10	47.80
37.20	47.90
37.30	48.00
37.40	48.10
37.50	48.20
37.60	48.30
37.70	48.40
37.80	48.50
37.90	48.60
38.00	48.70
38.10	48.80
38.20	48.90
38.30	49.00
38.40	49.10
38.50	49.20
38.60	49.30
38.70	49.40
38.80	49.50
38.90	49.60
39.00	49.70
39.10	49.80
39.20	49.90
39.30	50.00

Crystal marking (mc) (osc freq)	Corresponding RF channel frequency (mc)
39.40	50.10
39.50	50.20
39.60	50.30
39.70	50.40
39.80	50.50
39.90	50.60
40.00	50.70
40.10	50.80
40.20	50.90
40.30	51.00
40.35	51.05
40.40	51.10
40.45	51.15
40.50	51.20
40.55	51.25
40.60	51.30
40.65	51.35
40.70	51.40
40.75	51.45
40.80	51.50
40.85	51.55
40.90	51.60
40.95	51.65
41.00	51.70
41.05	51.75
41.10	51.80
41.15	51.85
41.20	51.90
41.30	52.00
41.40	52.10
41.50	52.20
41.60	52.30
41.70	52.40
41.80	52.50
41.90	52.60
42.00	52.70
42.10	52.80
42.20	52.90
42.30	53.00
42.40	53.10
42.50	53.20
42.60	53.30
42.70	53.40
42.80	53.50
42.90	53.60
43.00	53.70
43.10	53.80
43.20	53.90
43.30	54.00
43.40	54.10
43.50	54.20
43.60	54.30
43.70	54.40
43.80	54.50
43.90	54.60
44.00	54.70
44.10	54.80

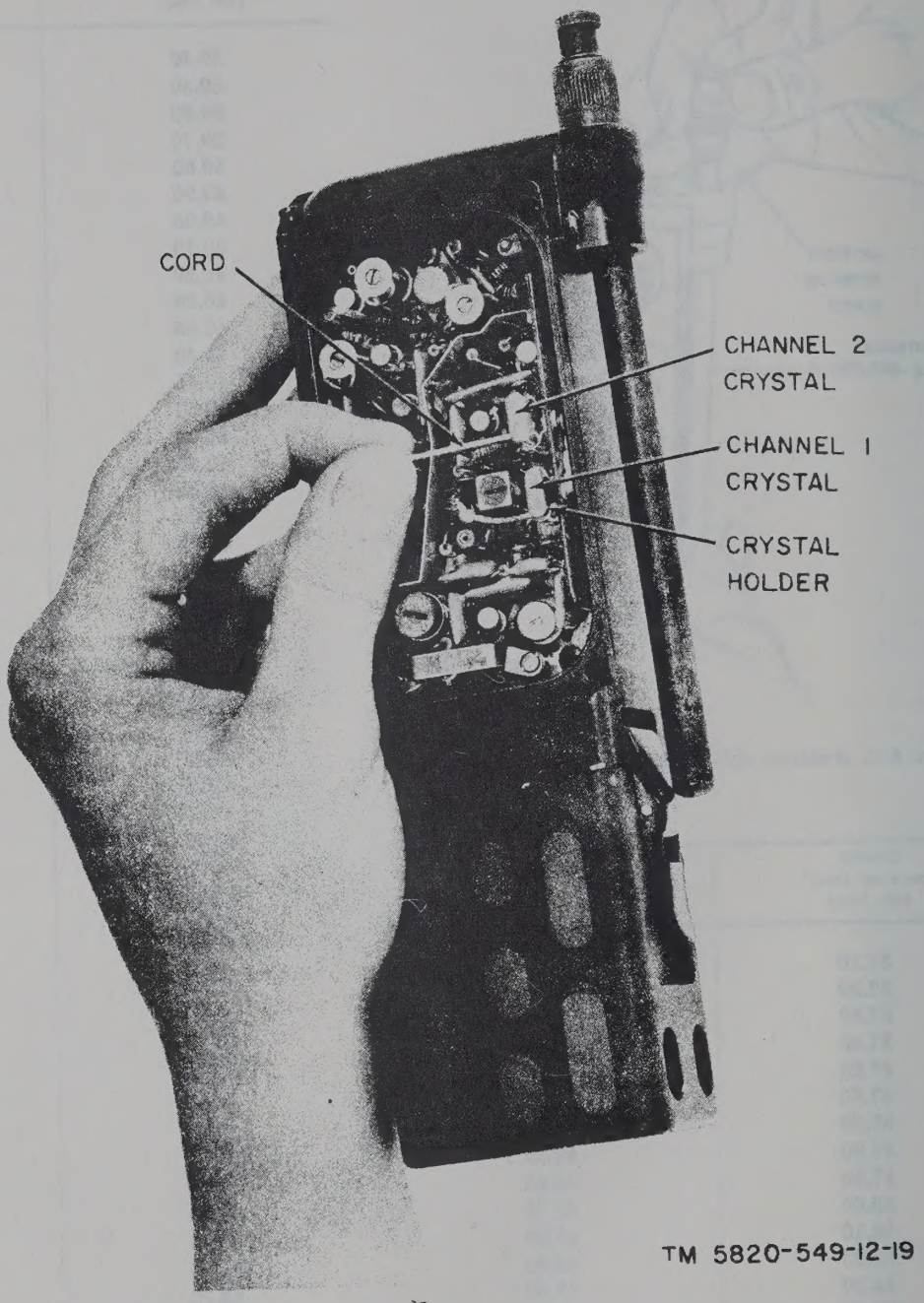

Figure 5-7. Transmitting Set, Radio AN/PRT-4, crystal removed.

5–20. Cleaning Transmitter Microphone (fig. 5–2)

CAUTION

Removal of the microphone element should not be performed as periodic preventive maintenance.

a. Remove the microphone element for cleaning only when performance indicates that the probable trouble is an improperly working microphone (item No. 2, para 5–7).

b. The microphone assembly, consisting of microphone cover and microphone element, is held to the front of the AN/PRT–4 by two screws. The assembly should be removed to remove dirt from the microphone cover perforations or microphone element.

c. Remove the two screws and washers that hold the microphone assembly to the transmitter.

CAUTION

Do not lose fuzz buttons or rubber feet when removing microphone cover and element.

d. Lift the microphone cover straight away from the transmitter casing and remove the microphone cover and microphone element.

e. Remove any dust and dirt from the microphone cover and surface of the transmitter casing at the cover location.

CAUTION

Do not use a hard surfaced tool to remove dirt from the microphone element surface.

f. Remove dirt from the microphone element surface by tapping it gently against the heel of the hand or brushing the dirt off with a soft brush.

g. Replace the microphone element into the microphone cover. Note that the tab on the microphone element fits into the tab lock in the microphone cover.

h. Check to see that the fuzz buttons and rubber feet are in place.

i. Replace the microphone assembly so that the cutout in the microphone cover is locked in place on the antenna side of the transmitter.

j. Replace and tighten the screws with the washers and lockwashers.

k. With the transmitter battery in place, a quick operational check of the microphone can be made by turning the TONE-VOICE switch to TONE. A low-level audible output should be heard at the microphone.

5–21. Replacement of AN/PRR–9 Antenna Housing Assembly

a. Remove Antenna AS–1998/PRR–9 (fig. 2–3) by turning antenna retaining screw counterclockwise until the screw and antenna are free.

b. Remove antenna housing assembly screw (fig. 2–3.2). Pull the antenna housing assembly in a direction away from the end of the AN/PRR–9 casing.

CAUTION

Care must be taken not to bend pin J1 (fig. 5–1) when positioning the new antenna housing assembly in place on the AN/PRR–9 casing.

c. Position the new antenna housing assembly on the AN/PRR–9 casing so that pin J1 mates with plug P1 and secure the assembly in place with the antenna housing assembly screw (fig. 2–3.2).

d. Replace Antenna AS–1998/PRR–9 (para 2–5).

5–22. Replacement of AN/PRT–4 Antenna Base Assembly

a. Unscrew the antenna retaining screw (fig. 5–3) and pull Antenna AS–1999/PRT–4 out through the top of the antenna base assembly.

b. Remove the four antenna base assembly screws (fig. 5–2). Pull the antenna base assembly in a direction away from the end of the AN/PRT–4 casing.

CAUTION

Care must be taken not to bend pin J3 (fig. 5–2) when positioning the new antenna base assembly in place.

c. Position the new antenna base assembly on the AN/PRT–4 casing so that pin J3 mates with plug P2. Secure the antenna base assembly in place with the four antenna base assembly screws.

d. Replace the antenna through the hole in the antenna base assembly and secure in place by tightening the antenna retaining screw finger tight. Do not overtighten.

CHAPTER 6

OPERATION OF INDICATOR, CHANNEL ALIGNMENT ID-1189/PR

Deleted.

CHAPTER 7

SHIPMENT AND LIMITED STORAGE AND DEMOLITION TO PREVENT ENEMY USE

Section I. SHIPMENT AND LIMITED STORAGE

7-1. Disassembly of Equipment

a. Receiver. Remove the antenna by removing the antenna retaining screw and lifting the antenna out. Replace and tighten the antenna retaining screw. Remove the battery.

b. Transmitter. Remove the battery. Replace the empty battery case on the transmitter.

7-2. Repackaging for Shipment or Limited Storage

The exact procedure for repackaging depends on the material available and the condition under which the equipment is to be shipped or stored. Adapt the procedure outlined below whenever possible. Information concerning the original packaging (paras 2-1 and 2-2) may also be helpful.

a. Material Requirements. The following materials are required for packaging either the AN/PRR-9 or AN/PRT-4. For stock numbers of materials, consult SB 38-100.

Material	Quantity
Cardboard carton	1 ea
Waterproof paper tape	5 ft
Wrapping paperboard	6 sq ft
Waterproof paper	20 sq ft
Filler material	5 sq ft
Corrugated cardboard	6 sq ft

b. Packaging. The items of the one AN/PRR-9 and one AN/PRT-4 are to be packaged as outlined below:

(1) Wrap the major component completely with wrapping paperboard, and secure with waterproof paper tape.
(2) Group the minor components, wrap them completely with wrapping paperboard, and secure with waterproof paper tape.
(3) Wrap the technical manuals in waterproof paper, and seal the package with waterproof paper tape.
(4) Line the inside of the cardboard carton with waterproof paper.
(5) Place the two paperboard packages and the package of technical manuals in the cardboard carton so that there will be adequate clearance on all sides of the packages.
(6) Stuff the filler material in the spaces around the packages.
(7) Seal the carboard carton with waterproof paper tape.

c. Packing. The cardboard carton will be packed in a wooden box large enough to allow 1-inch clearance on all sides. Line the inside of the wooden box with waterproof paper and corrugated cardboard. Place the cardboard carton inside the box, and nail the wooden box cover on the box.

Section II. DEMOLITION OF MATERIEL TO PREVENT ENEMY USE

7-3. Authority for Demolition

Demolition of the equipment will be accomplished only upon the order of the commander. The destruction procedures outlined in paragraph 7-4 will be used to prevent further use of the equipment.

7-4. Methods of Destruction

Use any of the following methods to destroy the equipment:

a. Smash. Smash the controls, switches, antenna, horn transducer, and electronic assemblies; use sledges, axes, handaxes, pickaxes, hammers, or crowbars.

b. Cut. Cut headset cords and lanyards; use axes, handaxes, or machetes.

Warning: **Be extremely careful with explosives and incendiary devices. Use these items only when the need is urgent.**

c. Burn. Burn the technical manuals; use gasoline, kerosene, oil, flamethrowers, or incendiary grenades.

d. Bend. Bend the cases.

e. Explode. If explosives are necessary, use firearms, greandes, or TNT.

f. Dispose. Bury or scatter the destroyed parts in slit trenches or foxholes, or throw them into nearby streams.

APPENDIX A

REFERENCES

Following is a list of applicable references available to the organizational repairman of Receiving Set, Radio AN/PRR-9 and Transmitting Set, Radio AN/PRT-4.

DA Pam 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders.
DA Pam 310-7	U. S. Army Equipment Index of Modification Work Orders.
SB 38-100	Preservation, Packaging, and Packing Materials, Supplies and Equipment Used by the Army.
TB SIG 364	Field Instructions for Painting and Preserving Electronics Command Equipment.
TM 9-213	Painting Instructions for Field Use.
TM 11-6625-937-12	Organizational Maintenance Manual: Indicator, Channel Alignment ID-1189/PR.
TM 38-750	Army Equipment Record Procedures.

APPENDIX B

BASIC ISSUE ITEMS

Section I. INTRODUCTION

B–1. Scope

This appendix lists items which accompany the Transmitting Set Radio AN/PRT–4 and AN/PRT–4A, and Receiving Set Radio AN/PRR–9, or are required for installation, operation, or operator's maintenance.

B–2. General

This Basic Issue Items List is divided into the following sections:

a. Basic Issue Items—Section II. A list of items which accompany the AN/PRT–4; AN/PRT–4A and AN/PRR–9 and are required by the operator/crew for installation, operation, or maintenance.

b. Maintenance and Operating Supplies—Section III. Not applicable.

B–3. Explanation of Columns

The following provides an explanation of columns in the tabular list of Basic Issue Items, Section II.

a. Source, Maintenance, and Recoverability Codes (SMR), Column 1:

(1) Source code, indicates the selection status and source for the listed item. Source codes are:

Code	Explanation
P	Repair parts which are stocked in or supplied from the GSA/DSA, or Army supply system and authorized for use at indicated maintenance categories.
P2	Repair parts which are procured and stocked for insurance purposes because the combat or military essentiality of the end item dictates that a minimum quantity be available in the supply system.
P9	Assigned to items which are NSA design controlled: unique repair parts, special tools, test, measuring and diagnostic equipment, which are stocked and supplied by the Army COMSEC logistic system, and which are not subject to the provisions of AR 380–41.
P10	Assigned to items which are NSA design controlled: special tools, test, measuring and diagnostic equipment for CONSEC support, which are accountable under the provisions of AR 380–41, and which are stocked and supplied by the Army COMSEC logistic system.
M	Repair parts which are not procured or stocked, but are to be manufactured in indicated maintenance levels.
A	Assemblies which are not procured or stocked as such, but are made up of two or more units. Such component units carry individual stock numbers and descriptions, are procured and stocked separately and can be assembled to form the required assembly at indicated maintenance categories.
X	Parts and assemblies which are not procured or stocked and the mortality of which normally below that of the applicable end item or component. The failure of such part or assembly should result in retirement of the end item from the supply system.
X1	Repair parts which are not procured or stocked. The requirement for such items will be filled by use of the next higher assembly or component.
X2	Repair parts which are not stocked. The indicated maintenance category requiring such repair parts will attempt to obtain same through cannibalization. Where such repair parts are not obtainable through cannibalization, requirements will be requisitioned, with accompanying justification, through normal supply channels.
G	Major assemblies that are procured with PEMA funds for initial issue only as exchange assemblies at DSU and GSU level.

Code	Explanation
	These assemblies will not be stocked above DS and GS level or returned to depot supply level.

(2) Maintenance code, indicates the lowest category of maintenance authorized to install the listed item. The maintenance level code is:

Code	Explanation
C	Operator/Crew
O	Organizational Maintenance

(3) Recoverability code, indicates whether unserviceable items should be returned for recovery or salvage. Items not coded are expendable. Recoverability codes are:

Code	Explanation
R	Repair parts and assemblies that are economically repairable at DSU and GSU activities and are normally furnished by supply on an exchange basis.
S	Repair parts and assemblies which are economically repairable at DSU and GSU activities and which normally are furnished by supply on an exchange basis. When items are determined by a GSU to be uneconomically repairable, they will be evacuated to a depot for evaluation and analysis before final disposition.
T	High dollar value recoverable repair parts which are subject to special handling and are issued on an exchange basis. Such repair parts normally are repaired or overhauled at depot maintenance activities.
U	Repair parts specifically selected for salvage by reclamation units because of precious metal content, critical materials, or high dollar value reusable casings or castings.

b. Federal Stock Number, Column 2. This column indicates the Federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description, Column 3. This column indicates the Federal item name and any additional description of the item required. The abbreviation "w/e", when used as a part of the nomenclature, indicates the Federal stock number includes all armament, equipment, accessories, and repair parts issued with the item. A part number or other reference number is followed by the applicable five-digit Federal supply code for manufacturers in parentheses.

d. Unit of Measure (U/M), Column 4. A 2 character alphabetic abbreviation indicating the amount or quantity of the item upon which the allowances are based, e.g., ft, ea, pr, etc.

e. Quantity Incorporated in Unit, Column 5. This column indicates the quantity of the item used in (*insert as applicable*, the functional group or the assembly group). A "V" appearing in this column in lieu of a quantity indicates that a definite quantity cannot be indicated (e.g., shims, spacers, etc.).

f. Quantity Furnished with Equipment, Column 6. This column indicates the quantity of an item furnished with the equipment.

g. Illustration, Column 7. This column is divided as follows:

(1) *Figure Number, Column 7a.* Indicates the figure number of the illustration in which the item is shown.

(2) *Item Number, Column 7b.* Indicates the callout number used to reference the item in the illustration.

B–4. Explanation of Columns in the Tabular List of Maintenance and Operating Supplies — Section III

Not applicable.

B–5. Special Information

a.

Code	Used on
1	AN/PRT–4
2	AN/PRT–4A

b. Dry batteries shown are used with the equipment but are not considered part of the equipment. They will not be preshipped automatically but are to be requisitioned in quantities necessary for the particular organization in accordance with SB 11–6.

B–6. Federal Supply Code for Manufacturers

Code	Manufacturer's Name
80063	____ Army Electronics Command

SECTION II BASIC ISSUE ITEMS

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION Reference Number & Mfr Code	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) QTY FURN WITH EQUIP	(7) ILLUSTRATIONS (a) FIG. NO.	(7) ILLUSTRATIONS (b) ITEM NO. OR REFERENCE DESIGNATION
G-C	5820-868-8107	TRANSMITTING SET RADIO AN/PRT-4: SM-D-523200; 80063					1-3	TR1
G-C	5820-133-8980	TRANSMITTING SET RADIO AN/PRT-4A: SM-D-523800; 80063					1-3	TR1
		TECHNICAL MANUAL TM 11-5820-549-12		EA	1	1		
		Requisition through pinpoint account number if assigned; otherwise through nearest Adjutant General facility.						
		For technical manuals the quantity indicates the maximum number of copies authorized for packing (or issue) with the equipment. Where a number of these equipments are concentrated in a small area, the quantity on hand may be reduced to the minimum actual requirements as determined by the commanding officer of the unit.						
P-C	5985-926-2589	ANTENNA ASSEMBLY AS-1999/PRT-4,4A: SM-D-523372; 80063	1,2	EA	1	1	1-3	E3
P-C	5820-908-9189	CASE BATTERY CY-6115/PRT-4,4A: SM-C-523258; 80063	1,2	EA	1	1	1-3	A9
P-C	6135-926-0845	BATTERY, BA-399/U: GFP	1,2	EA				BT1
P-C	5985-933-2879	LANYARD, ASSEMBLY: SM-B-523304; 80063	1,2	EA	1	1	1-3	A10
P-C	5820-995-2261	SLIDE: SM-B-523391; 80063	1,2	EA	1	1	1-3	M22
		NO ACCESSORIES, TOOLS OR TEST EQUIPMENT ARE TO BE ISSUED WITH THIS EQUIPMENT.						
		NO BASIC ISSUE ITEMS ARE MOUNTED IN OR ON THE EQUIPMENT.						

SECTION III BASIC ISSUE ITEMS

(1) SMR CODE	(2) FEDERAL STOCK NUMBER	(3) DESCRIPTION Reference Number & Mfr Code	USABLE ON CODE	(4) UNIT OF MEAS	(5) QTY INC IN UNIT	(6) QTY FURN WITH EQUIP	(7) ILLUSTRATIONS (a) FIG. NO.	(7) ILLUSTRATIONS (b) ITEM NO. OR REFERENCE DESIGNATION
G-C	5820-069-8931	RECEIVING SET RADIO AN/PRR-9: SM-D-523300; 80063					1-2	
		TECHNICAL MANUAL TM 11-5820-549-12		EA	1	1		
		Requisition through pinpoint account number if assigned; otherwise through nearest Adjutant General facility.						
		For technical manuals the quantity indicates the maximum number of copies authorized for packing (or issue) with the equipment. Where a number of these equipments are concentrated in a small area, the quantity on hand may be reduced to the minimum actual requirements as determined by the commanding officer of the unit.						
P-C	5985-933-2878	ANTENNA ASSEMBLY AS-1998/PRR-9: SM-C-523228; 80063		EA	1	1	1-2	E1
P-C	5965-926-2591	HEADSET, ELECTRICAL H-264/PRR-9: SM-B-523427; 80063		EA	1	1	1-2	HTL
P-C	5985-933-2879	LANYARD ASSEMBLY: SM-B-523304; 80063		EA	1	1	1-2	A10
P-C	5820-995-2261	SLIDE: SM-B-523391; 80063		EA	1	1	1-2	M22
P-C	6135-935-8630	BATTERY, BA-4505/U: GFP		EA				BT1
		NO ACCESSORIES, TOOLS OR TEST EQUIPMENT ARE TO BE ISSUED WITH THE EQUIPMENT						
		NO BASIC ISSUE ITEMS ARE MOUNTED IN OR ON THE EQUIPMENT						

APPENDIX C

MAINTENANCE ALLOCATION

Section I. INTRODUCTION

C–1. General

This appendix provides a summary of the maintenance operations covered in the equipment literature for Transmitting Set, Radio AN/PRT–4 and Receiving Set, Radio AN/PRR–9. It authorizes categories of maintenance for specific maintenance functions on repairable items and components and the tools and equipment required to perform each function. This appendix may be used as an aid in planning maintenance operations.

C–2. Explanation of Format for Maintenance Allocation Chart

a. Group Number. Not used.

b. Component Assembly Nomenclature. This column lists the item names of component units, assemblies, subassemblies, and modules on which maintenance is authorized.

c. Maintenance Function. This column indicates the maintenance category at which performance of the specific maintenance function is authorized. Authorization to perform a function at any category also includes authorization to perform that function at higher categories. The codes used represent the various maintenance categories as follows:

Code	Maintenance Category
C	Operator/Crew
O	Organizational Maintenance
F	Direct Support Maintenance
H	General Support Maintenance
D	Depot Maintenance

d. Tools and Equipment. The numbers appearing in this column refer to specific tools and equipment which are identified by these numbers in section III.

e. Remarks. Self explanatory.

C–3. Explanation of Format for Tool and Test Equipment Requirements

The columns in the tool and test equipment requirements chart are as follows:

a. Tools and Equipment. The numbers in this column coincide with the numbers used in the tools and equipment column of the MAC. The numbers indicate the applicable tool for the maintenance function.

b. Maintenance Category. The codes in this column indicate the maintenance category normally allocated the facility.

c. Nomenclature. This column lists tools, test, and maintenance equipment required to perform the maintenance functions.

d. Federal Stock Number. This column lists the Federal stock number.

e. Tool Number. Not used.

SECTION II. MAINTENANCE ALLOCATION CHART (AN/PRT-4 & 4A)

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	TRANSMITTING SET, RADIO AN/PRT-4 & 4A	C												Exterior of equipment only
			C											Operational check tests only
			O										2	Operational and alignment using ID-1189/PR
			F										2,5	Those required to locate faulty switches
			D										2, 5 thru 14	Test required to locate faulty components on Electronic Unit Assembly
				C										
						O							2	Only those alignments required after crystal replacement using the ID-1189/PR
						D							2, 5 thru 14	Alignment of the VCO, 1st and 2nd Driver, Power Amplifier, and Antenna Loading Coil using the ID-1189/PR and the phase detector, Modulator, and Reference Oscillator stages using standard test equipment
										C				By replacement of batteries
										F			3,4	By replacement of switches, microphone element, R38, R39, and override and compression springs.
										D	D	D	3 thru 14	All repairs, especially Electronic Unit Assy

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	AN/PRT-4 & 4A (cont)													
	CASE ASSEMBLY	C												Exterior of equipment only
			C											Operational test only
			O										2	Alignment test using ID-1189/PR
			F										2,5	Alignment test and the test required to locate faulty switch
			D										2, 5 thru 14	All tests
				C										Exterior
						O							2	Those required after crystal replacement using ID-1189/PR
						F							2	Alignment of frequency determining circuits using ID-1189/PR
						D								All alignment
										O			1	By replacement of crystals, knobs, antenna
										F			3,4	By replacement of switches only
	TONE-VOICE SWITCH S1	F												
			F										5	
				F										
										F			3,4	By replacement of switches
	CHANNEL SWITCH S2	F												
			F										5	
				F										
										F			3,4	By replacement of switch NOTE: Also, R38, R39 may be replaced

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	AN/PRT-4 & 4A (cont)													
	ANTENNA HOUSING ASSEMBLY	C												
			O										2	For alignment only
						O							2	
										O				By replacement of antenna and antenna housing assembly
										D			3,4	All other repairs
	MICROPHONE ELEMENT	C												External only
				O										Clean element of any foreign matter only
										F				By replacement of element
										D				All other repairs
	ELECTRONIC UNIT ASSEMBLY	D												
			D										2 thru 14	
				D									2 thru 14	
						D							2 thru 14	
										D			2 thru 14	Replace board components on board assy
											D		2 thru 14	
												D	2 thru 14	

TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOLS AND EQUIPMENT	MAINTENANCE CATEGORY	NOMENCLATURE	FEDERAL STOCK NUMBER	TOOL NUMBER
		AN/PRT-4 & 4A and AN/PRR-9 (cont)		
1	O	TOOL KIT TK-101/G		
2	O,F,D	CHANNEL ALIGNMENT INDICATOR ID-1189/PR		
3	F,D	TOOL KIT TK-100/G		
4	F,D	TOOL KIT TK-105/G		
5	F,D	MULTIMETER TS-352B/U		
6	D	MULTIMETER ME-26V/U		
7	D	VOLTMETER, ELECTRONIC ME-30A/U		
8	D	MULTIMETER AN/USM-33		
9	D	TEST SET, RADIOFREQUENCY, POWER AN/URM-120		
10	D	DUMMY LOAD, ELECTRICAL DA-75/U		
11	D	OSCILLATOR, AUDIO TS-421A/U		
12	D	METER, MODULATION ME-57/U		
13	D	POWER SUPPLY PP-3514/U		
14	D	COUNTER, ELECTRONIC, DIGITAL READOUT AN/USM-207		

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS												TOOLS AND EQUIPMENT	REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD			
	RECEIVING SET, RADIO AN/PRR-9	C													Exterior only
			C												Operational tests only
			O											2	Operational and alignment tests only using ID-1189/PR
			F											2,5	To locate faulty switch
			D											2, 5 thru 16	All tests
				C											Exterior only
				O											Exterior only
						O								1	Only those required after crystal replacement using ID-1189/PR
						F								3,4	Those accomplished with ID-1189/PR
						D									All alignments
										C					By replacement of battery only
										O				1	By replacement of knob, antenna
										F				3,4	By replacement of switch
										D				2 thru 16	All repairs
											D	D		2 thru 16	
	CASE ASSEMBLY	C													Exterior only
			O											2	Those required after crystal replacement
			D											2, 5 thru 16	All test
				C											Exterior only
						O								1,2	Those required after crystal replacement
						D									All alignments
										O					By replacement of knob antenna
										F				3,4	By replacement of switch
										D				2 thru 16	All repairs
											D			2 thru 16	
												D		2 thru 16	

MAINTENANCE ALLOCATION CHART

GROUP NUMBER	COMPONENT ASSEMBLY NOMENCLATURE	MAINTENANCE FUNCTIONS											TOOLS AND EQUIPMENT	REMARKS
	AN/PRR-9 (cont)	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	ELECTRONIC UNIT ASSEMBLY	D												
			D										2 thru 16	
				D									2 thru 16	
						D							2 thru 16	
										D			2 thru 16	Replace board component on board assy
											D		2 thru 16	
												D	2 thru 16	
	ANTENNA HOUSING ASSEMBLY	C												Exterior only
			O										2	
				C										Exterior only
						O							2	Using ID-1189/PR
										O				By replacement of antenna base support, antenna, and locking screw
										D			3,4	All repairs

TOOL AND TEST EQUIPMENT REQUIREMENTS

TOOLS AND EQUIPMENT	MAINTENANCE CATEGORY	NOMENCLATURE	FEDERAL STOCK NUMBER	TOOL NUMBER
		AN/PRT-4 & 4A and AN/PRR-9 (cont)		
1	O	TOOL KIT TK-101/G		
2	O,F,D	CHANNEL ALIGNMENT INDICATOR ID-1189/PR		
3	F,D	TOOL KIT TK-100/G		
4	F,D	TOOL KIT TK-105/G		
5	F,D	MULTIMETER TS-352B/U		
6	D	VOLTMETER, ELECTRONIC ME-30A/U		
7	D	MULTIMETER AN/USM-33		
8	D	MULTIMETER ME-26B/U		
9	D	POWER SUPPLY PP-3514/U		
10	D	COUNTER, ELECTRONIC DIGITAL READOUT AN/USM-207		
11	D	OSCILLATOR, AUDIO TS-421A/U		
12	D	ANALYZER, SPECTRUM TS-723A/U		
13	D	METER, AUDIO LEVEL TS-585		
14	D	GENERATOR, SIGNAL AN/URM-103 (IF NOT AVAILABLE USE AN/URM-48, 6625-545-7954)		
15	D	GENERATOR, SIGNAL AN/GRM-50		
16	D	OSCILLATOR, TEST AN/USM-205		

APPENDIX D

ORGANIZATIONAL, DS, GS, AND DEPOT REPAIR PARTS

Section I. INTRODUCTION

D-1. Scope.

This manual contains a list of repair parts required for the performance of general support maintenance for Indicator, Channel Alignment ID-1189/PR.

Notes.

1. Repair parts required for the performance of organizational maintenance for Indicator, Channel Alignment ID-1189/PR are contained in TM 11-6625-937-12.

2. No special tools, test, and support equipment are required.

D-2. General

The repair parts list is divided into the following sections.

a. Repair Parts for Direct Support, General Support and Depot Maintenance, Section II. Repair parts authorized for general support maintenance are included in this section. No parts authorized for stockage at direct support or depot categories.

b. Federal Stock Number Cross Reference Index, Section III. This is a cross reference index of Federal stock numbers to item number.

D-3. Explanation of Columns

The following is an explanation of the columns in section II.

a. Source, Maintenance, and Recoverability Codes Column.

(1) *Source code (S).* The selection status and source for the listed item is noted here. Source code and its explanation are as follows:

Code	*Explanation*
P	Applies to repair parts which are stocked in or supplied from the GSA/DSA, or Army supply system, and authorized for use at indicated maintenance categories.

(2) *Maintenance code (M).* The lowest category of maintenance authorized to install the listed item is noted here.

Code	*Explanation*
O	Organizational Maintenance
H	General Support Maintenance

(3) *Recoverability code (R).* The information in this column indicates whether unserviceable items should be returned for recovery or salvage.

Note. When no code is indicated in the recoverability column, the part will be considered expendable.

b. Federal Stock Number Column. The Federal stock number for the item is listed in this column.

c. Description Column. The sequence number, Federal item name, a five-digit Federal Supply Code for Manufacturers (para D-5), and a part number are included in this column. The model designator and indenture code are not used.

d. Unit of Issue Column. The unit used as a basis of issue (e.g. ea, pr, ft, yd, etc.) is noted in this column.

e. Quantity Incorporated in Unit Pack Column. Not used.

f. Quantity Incorporated in Unit Column. The quantity of repair parts in the equipment is given in this column.

g. Maintenance Allowances Column.

(1) The maintenance allowance columns are divided into subcolumns. The total quantity of items authorized for the number of equipments supported is indicated in each subcolumn op-

posite each item. Items authorized for use as required but not for initial stockage are identified with an asterisk (*) in the allowance column.

(2) The quantitative allowances for GS categories of maintenance will represent initial stockage for a 30-day period for the number of equipments supported.

h. One-Year Allowances Per 100 Equipments/Contingency planning Purposes Column. Not used.

i. Depot Maintenance Allowance Per 100 Equipments Column. Not used.

j. Illustrations Column.

(1) *Figure number (a).* Not used.

(2) *Item or symbol number (b).* This column lists the reference designation that appear on the part in the equipment.

D-4. Location of Repair Parts

a. When the Federal stock number is unknown, follow the procedures given in (1) and (2) below.

(1) If the item or symbol number is available, locate the item by scrutiny of column 10*b* of the repair parts list.

(2) If the item or symbol number are not known, check the description column (column 3) in the repair parts list to locate the part. The parts in this column are arranged in alphabetical order.

b. When the Federal stock number is known, use the repair part listing to find the repair part and the item number as noted in the Federal stock number index.

D-5. Federal Supply Codes

This paragraph lists the Federal supply code and the associated manufacturer's name.

Code	*Manufacturer*
16758	Delco Radio, Div. of General Motors Corp.
80063	Army Electronics Command
81349	Military Specifications
96906	Military Standards

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SECTION II. REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE

(1) SOURCE CD (A)	(1) MAINT. CD (B)	(1) REC. CODE (C)	REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (2) FEDERAL STOCK NUMBER	MODEL 1	2	3	4	5	6	CD IND	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) ILLUSTRATIONS (B) ITEM OR SYMBOL NUMBER
											INDICATOR, CHANNEL ALIGNMENT ID-1189/PR														
											THE FOLLOWING ITEMS ARE CONTAINED IN REPAIR PARTS KITS FOR GENERAL SUPPORT MAINTENANCE														
			5120-930-9204								INDICATOR, CHANNEL ALIGNMENT ID-1189/PR: 80063; SM-D-523500 (This item is nonexpendable.)	ea													
P	O		6625-933-9139							090	ALIGNMENT TOOL: 80063; SM-B-523591	ea		1				*	*	2				
P	O		6625-933-9140							088	ANTENNA ASSEMBLY: 80063; SM-C-523588	ea		1				*	*	2				
P	O		5355-933-9041							047	KNOB: 80063; SM-C-523646	ea		1				*	*	2				MP29
P	O		5355-933-9040							049	KNOB: 80063; SM-C-523615	ea		1				*	*	2				MP26
P	O		5355-619-9659							052	KNOB: 96906; MS91525-1	ea		1				*	*	2				MP28
P	O		5120-937-0066							089	SCREWDRIVER: 80063; SM-B-523590	ea		1				*	*	2				
P	H		6625-933-9147							004	ANTENNA HOUSING: 16758; D523508	ea		1				*	*	2				
P	H		6625-933-9143							084	CABLE ASSEMBLY: 80063; SM-C-523570	ea		1				*	*	2				
P	H		5910-857-9192							079	CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CK06CW103M	ea		3				*	*	2				C3, C8, C9
P	H		5910-904-0519							080	CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CS13BF105M	ea		2				*	*	2				C5, C6

(1) SOURCE CD (A)	(1) MAINT. CD (B)	(1) REC. CODE (C)	REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (2) FEDERAL STOCK NUMBER	MODEL 1	2	3	4	5	6	CD IND	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) (B) ITEM OR SYMBOL NUMBER
											ID-1189/PR (continued)													
P	H		5910-082-5033								081 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CM05D271J3	ea		1				*	*	2				C4
P	H		5910-957-9909								082 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CM05D391G03	ea		2				*	*	2				C1, C2
P	H		5910-857-2123								046 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CK70AW152M	ea		1				*	*	2				C10
P	H										029 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CK05CW472M	ea		5				*	2	2				C7, C11, C18, C22, C24
P	H										030 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CM05CW102M	ea		3				*	*	2				C12, C19, C23
P	H		5910-067-7293								031 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CM05C050K03	ea		1				*	*	2				C21
P	H		5910-767-5515								032 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CM05D270J03	ea		1				*	*	2				C15
P	H		5910-056-7976								033 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CM05F271G03	ea		1				*	*	2				C14
P	H		5910-954-5500								034 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CM05F151G03	ea		2				*	*	2				C16, C20
P	H		5910-060-1188								035 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CM05C100K03	ea		1				*	*	2				C13

(1) SOURCE CD (A)	(1) MAINT. CD (B)	(1) REC. CODE (C)	REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (2) FEDERAL STOCK NUMBER	MODEL 1	2	3	4	5	6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) ILLUSTRATIONS (B) ITEM OR SYMBOL NUMBER
											ID-1189/PR (continued)													
P	H		5910-079-8958								036 CAPACITOR, FIXED, CERAMIC DIELECTRIC: 81349; CM52UJ101G	ea		1				*	*	2				C17
P	H		5910-933-9339								038 CAPACITOR, VARIABLE: 80063; SM-C-523547	ea		1				*	*	2				C25
P	H		5950-933-9635								041 COIL, RF: 80063; SM-B-523549	ea		1				*	*	2				L9
P	H		5950-933-9636								042 COIL, RF: 80063; SM-B-523550	ea		1				*	*	2				L8
P	H		5950-933-9637								043 COIL, SUPPORT: 80063; SM-B-523551	ea		1				*	*	1				
P	H		5950-931-0462								044 COIL, RF: 96906; MS-90537-21	ea		1				*	*	2				L7
P	H		5950-933-9633								028 COIL, RF: 16758; C523545	ea		4				*	2	2				L1 thru L4
P	H		5950-933-9634								037 CHOKE, RF: 80063; SM-C-523546	ea		1				*	*	2				L4
P	H		5935-933-9092								093 CONNECTOR, PLUG: 80063; SM-C-523564	ea		1				*	*	2				P2
P	H		5935-933-9094								094 CONNECTOR, RECEPTACLE: 80063; SM-C-523565	ea		1				*	*	2				J12
P	H		6625-933-9141								086 CONNECTOR, RECEPTACLE: 80063; SM-C-523569	ea		1				*	*	2				
P	H		5935-933-9099								045 CONNECTOR, RECEPTACLE: 80063; SM-D-523624-2	ea		1				*	*	2				J10
P	H		5935-933-9098								014 CONNECTOR, RECEPTACLE: 80063; SM-B-523524	ea		1				*	*	2				J8

(1) SOURCE CD (A)	(1) MAINT. CD (B)	(1) REC. CODE (C)	(2) FEDERAL STOCK NUMBER	MODEL 1	2	3	4	5	6	CD IND	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) ILLUSTRATIONS (B) ITEM OR SYMBOL NUMBER
											ID-1189/PR (continued)													
P	H		6625-933-9146								007 CONNECTOR, RECEPTACLE: 80063; SM-C-523510	ea		1				*	*	2				
P	H		5935-933-9096								009 CONNECTOR, RECEPTACLE: 80063; SM-B-523511	ea		1				*	*	2				J6
P	H		5935-933-9697								010 CONNECTOR, RECEPTACLE: 80063; SM-B-523514	ea		1				*	*	2				J7
P	H		5935-933-9093								011 CONNECTOR, RECEPTACLE, BASE: 80063; SM-D-523517	ea		1				*	*	2				E10
P	H										DUMMY LOAD, RECEIVER: 16758; 7303141	ea		1				*	*	2				
P	H										DUMMY LOAD TRANSMITTER: 16758; 7303140	ea		1				*	*	2				
P	H		5325-933-9039								012 GROMMET: 80063; SM-B-523599	ea		4				*	*	2				E7
P	H		5935-933-9095								013 JACK PHONE: 80063; SM-C-523522	ea		1				*	*	2				
P	H		5940-933-9161								008 LUG, SOLDER: 80063; SM-B-523597	ea		1				*	*	2				E2
P	H		6625-933-9144								083 METER: 80063; SM-C-523561	ea		1				*	*	2				M1
P	H		5310-271-4542								003 NUT: 16758; MS35649-044	ea		22				2	2	2				
P	H		5310-271-4640								020 NUT, HEX: 96906; MS35649-24	ea		18				2	2	2				
P	H		6625-933-9145								022 PLATE, VERNIER: 80063; SM-C-523537	ea		1				*	*	2				MP23
P	H		6625-933-9142								085 PROBE ASSEMBLY: 80063; SM-C-523567	ea		1				*	*	2				P8

(1) SOURCE CD (A)	(1) MAINT. CD (B)	(1) REC. CODE (C)	REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (2) FEDERAL STOCK NUMBER	MODEL 1	2	3	4	5	6	IND CD	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
											ID-1189/PR (continued)														
P	H		6625-933-9138								095 R.F. LINE: 80063; SM-D-523648	ea		1				*	*	2				P3, P4
P	H		6625-933-9137								096 R.F. LINE: 80063; SM-D-523649	ea		1				*	*	2				P6, P7
P	H		5905-892-5554								006 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF390K	ea		1				*	*	2				R38
P	H		5905-807-4954								023 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF751J	ea		1				*	*	2				R41
P	H		5905-816-8554								024 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF103K	ea		2				*	*	2				R43, R45
P	H		5905-726-6433								025 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF222K	ea		2				*	*	2				R39, R47
P	H		5905-752-3340								026 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF472K	ea		1				*	*	2				R40
P	H		5905-752-3338								027 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF102K	ea		1				*	*	2				R44
P	H		5905-811-7912								016 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF470K	ea		6				2	2	2				R25, R28, R29, R33, R35, R36
P	H		5905-835-1632								017 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF240J	ea		1				*	*	2				R24

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(1) SOURCE CD (A)	(1) MAINT. CD (B)	(1) REC. CODE (C)	REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (2) FEDERAL STOCK NUMBER	MODEL 1	2	3	4	5	6	CD IND	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(B) ITEM OR SYMBOL NUMBER
											ID-1189/PR (continued)													
P	H		5905-726-6836								018 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF680K	ea		6				2	2	2				R26, R27, R30, R31, R32, R34
P	H		5905-683-2293								019 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF910J	ea		1				*	*	2				R37
P	H		5905-836-2744								060 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF100K	ea		1				*	*	2				R3
P	H		5905-682-4107								062 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF181K	ea		1				*	*	2				R12
P	H		5905-726-5435								063 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF331K	ea		1				*	*	2				R6
P	H		5905-683-2236								064 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF	ea		1				*	*	2				R5
P	H		5905-752-3335								066 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF122K	ea		1				*	*	2				R2
P	H		5905-686-4529								067 RESISTOR, FIXED, COMPOSITION: 81349; RC07GF123K	ea		1				*	*	2				R4
P	H		5905-299-2054								068 RESISTOR, FIXED, COMPOSITION: 81349; RC32GF221K	ea		1				*	*	2				R7
P	H		5905-279-1976								069 RESISTOR, FIXED, COMPOSITION: 81349; RC42GF101K	ea		1				*	*	2				R18

(1) SOURCE CD (a)	(1) MAINT. CD (b)	(1) REC. CODE (c)	REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (2) FEDERAL STOCK NUMBER	MODEL 1	2	3	4	5	6	CD IND	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (a) 1–20	DS (b) 21–50	DS (c) 51–100	GS (a) 1–20	GS (b) 21–50	GS (c) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (a) FIGURE NUMBER	(b) ITEM OR SYMBOL NUMBER
											ID-1189/PR (continued)														
P	H		5905-060-9454								070 RESISTOR, FIXED, COMPOSITION: 81349; RL20AD513J	ea		1				*	*	2				R15
P	H		5905-829-0156								071 RESISTOR, FIXED, COMPOSITION: 81349; RL20AD114J	ea		2				*	*	2				R16, R21
P	H		5905-722-9866								072 RESISTOR, FIXED, COMPOSITION: 81349; RL20AD274J	ea		2				*	*	2				R9, R19
P	H		5905-926-8448								073 RESISTOR, FIXED, COMPOSITION: 81349; RB56CE1R820F	ea		1				*	*	2				R46
P	H		5905-057-2519								074 RESISTOR, VARIABLE: 81349; RJ11CP104	ea		1				*	*	2				R8
P	H		5305-937-0002								076 SCREW: 80063; SM-B-523603-3	ea		2				*	*	2				
P	H		5305-937-0001								077 SCREW: 80063; SM-B-523603-2	ea		4				*	*	2				
P	H		5305-937-0000								078 SCREW: 80063; SM-B-523603-1	ea		1				*	*	2				
P	H		5305-937-0004								048 SCREW: 80063; SM-B-523606-1	ea		2				*	*	2				
P	H		5305-937-0003								021 SCREW: 80063; SM-B-523426-1	ea		4				*	*	3				
P	H		5305-933-3148								002 SCREW: 16758; C523231-003	ea		1				*	*	2				

(1) SOURCE CD (A)	(1) MAINT. CD (B)	(1) REC. CODE (C)	(2) FEDERAL STOCK NUMBER	MODEL 1	2	3	4	5	6	CD IND	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1—20	DS (B) 21—50	DS (C) 51—100	GS (A) 1—20	GS (B) 21—50	GS (C) 51—100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY PL.	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) ILLUSTRATIONS (B) ITEM OR SYMBOL NUMBER
											ID-1189/PR (continued)													
P	H		5961-933-9463								056 SEMICONDUCTOR DEVICE DIODE: 80063; SM-B-523370	ea		1				*	*	2				CR1
P	H		5961-556-2091								057 SEMICONDUCTOR DEVICE DIODE, 1N270: 81349; MIL-S-19500-200	ea		7				*	2	2				CR2, CR3, CR4, CR7, CR8, CR9, CR10
P	H		5961-985-4900								058 SEMICONDUCTOR DEVICE DIODE, 1N645: 81349; MIL-S-19500240	ea		2				*	*	2				CR5, CR11
P	H		5961-752-6121								059 SEMICONDUCTOR DEVICE DIODE, 1N753A: 81349; MIL-S-19500-127	ea		1				*	*	2				CR6
P	H		5930-933-8939								015 SWITCH, ROTARY: 80063; SM-D-523533	ea		1				*	*	2				S4
P	H		5930-933-8940								050 SWITCH: 80063; SM-C-523554	ea		1				*	*	2				S1
P	H		5930-933-8941								051 SWITCH, ROTARY: 80063; SM-C-523556	ea		1				*	*	2				S2
P	H		5930-501-1749								053 SWITCH: 96906; MS25089-36	ea		1				*	*	2				S3
P	H		5935-552-7613								005 TIP, JACK: 96906; MS16108-3A	ea		1				*	*	2				J5
P	H		5961-933-3235								054 TRANSISTOR: 80063; SM-B-523365	ea		1				*	*	2				Q2
P	H		5961-933-9673								055 TRANSISTOR, 2N3053: 80063; SM-B-523367	ea		1				*	*	2				Q1
P	H		5961-950-1655								039 TRANSISTOR, 2N987: 81349; MIL-S-19500-267	ea		1				*	*	2				Q3

(1) SOURCE CD (A)	(1) MAINT. CD (B)	(1) REC. CODE (C)	REPAIR PARTS FOR DIRECT SUPPORT, GENERAL SUPPORT, AND DEPOT MAINTENANCE (2) FEDERAL STOCK NUMBER	MODEL 1	2	3	4	5	6	CD IND	(3) DESCRIPTION	(4) UNIT OF ISSUE	(5) QTY INC IN UN PK	(6) QTY INC IN UNIT	(7) 30 DAY MAINT. ALW. DS (A) 1–20	DS (B) 21–50	DS (C) 51–100	GS (A) 1–20	GS (B) 21–50	GS (C) 51–100	(8) 1 YR. ALW. PER 100 EQUIP. CNTGCY	(9) DEPOT MAINT. ALW. PER 100 EQUIP.	(10) ILLUSTRATIONS (A) FIGURE NUMBER	(10) ILLUSTRATIONS (B) ITEM OR SYMBOL NUMBER
											ID-1189/PR (continued)													
P	H		5961-933-9452								040 TRANSISTOR, 2N2398: 81349; MIL-S-19500-346	ea		1				*	*	2				Q4

SECTION III. FEDERAL STOCK NUMBER INDEX

INDEX — FEDERAL STOCK NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE SYMBOL

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5325-933-9039		E7
5355-619-9659		MP28
5355-933-9040		MP26
5355-933-9041		MP29
5905-057-2519		R8
5905-060-9454		R15
5905-279-1976		R18
5905-299-2054		R7
5905-682-4107		R12
5905-683-2233		R37
5905-683-2236		R5
5905-686-4529		R4
5905-722-9866		R9, R19
5905-726-6433		R39, R47
5905-726-6435		R6
5905-726-6836		R26, R27, R30, R31, R32, R34
5905-752-3335		R2
5905-752-3338		R44
5905-752-3340		R40
5905-807-4954		R41
5905-811-7912		R25, R28, R29, R33, R35, R36
5905-816-8554		R43, R45
5905-829-0156		R16, R21
5905-835-1632		R24
5905-836-2744		R3
5905-892-6554		R38
5905-926-8448		R46
5910-056-7976		C14
5910-060-1188		C13
5910-067-7293		C21
5910-079-8958		C17
5910-082-5033		C4
5910-767-5515		C15
5910-857-2123		C10
5910-857-9192		C3, C8, C9
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5910-954-5500		C16, C20
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5930-933-8940		S1
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5935-552-7613		J5
5935-933-9092		P2
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5935-933-9094		J12
5935-933-9096		J6
5935-933-9098		J8
5935-933-9099		J10
5935-933-9697		J7
5940-933-9161		E2
5950-931-0462		L7
5950-933-9633		L1 thru L4
5950-933-9634		L4
5950-933-9635		L9
5950-933-9636		L8
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5961-752-6121		CR6
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5961-933-9462		Q4

INDEX — FEDERAL STOCK NUMBER CROSS REFERENCE TO FIGURE AND ITEM NUMBER OR REFERENCE SYMBOL

STOCK NO.	FIGURE NO.	ITEM NO. REF. SYMBOL	STOCK NO.	FIGURE NO.	ITEM NO. REF. SYMBOL
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5961-933-9673		Q1			
5961-950-1655		Q3			
5961-985-4900		CR5, CR11			
6625-933-9137		P6, P7			
6625-933-9138		P3, P4			
6625-933-9142		P8			
6625-933-9144		M1			
6625-933-9145		MP23			

By Order of the Secretary of the Army:

HAROLD K. JOHNSON,
General, United States Army,
Chief of Staff.

Official:

KENNETH G. WICKHAM,
Major General, United States Army,
The Adjutant General.

Distribution:

Active Army:

USASA (2)
CNGB (1)
CC-E (7)
Dir of Trans (1)
CofEngrs (1)
TSG (1)
CofSptS (1)
USACDCBRA (1)
USACDCCEA (1)
USACDCOA (1)
USACDCQMA (1)
USACDCTA (1)
USACDCADA (1)
USACDCARMA (1)
USACDCAVNA (1)
USACDCARTYA (1)
USACDCSWA (1)
USACDCCEA, Ft Huachuca (1)
USAAEHA (5)
USAARENBD (2)
USAAESWBD (5)
USAMC (5)
USCONARC (5)
ARADCOM (5)
ARADCOM Rgn (2)
OS Maj Comd (4)
LOGCOMD (2)
USAMICOM (4)
USASTRATCOM (4)
USAESC (85)
MDW (1)
Armies (2) except
  Seventh (5)
  EUSA (5)
Corps (2)
USAC (3)
Div (2)
1st GM bde (5)
13th Fld Sta (5)
USAG, Arlington Hall (5)
USMA (5)
Svc Colleges (2)
USASESCS (60)
USAADS (10)
USAAMS (30)
USAARMS (30)
USAIS (30)
USAES (10)
USAFS (5)
USAMPS (5)
MFSS (5)
USAOGMS (5)
USAQMS (5)
USAES (5)
USASA Tng Cen &Sch (5)
USATC (2) except
  USAMEDTC (5)
  USATC, FA (5)
WRAMC (1)
Army Pic Cen (2)
USACDCEC (10)
USAINTC (5)
USAJFKCENSPWAR (5)
USAOEC (5)
Instl (2) except
  Ft Hancock (4)
  Ft Gordon (10)
  Ft Huachuca (10)
Ft Carson (25)
  Ft Knox (12)
  Ft Lee (5)
Gen Dep (2)
Sig Sec, Gen Dep (5)
Sig Dep (12)
Army Dep (2) except
  LBAD (14)
  TOAD (14)
  SHAD (3)
  SVAD (5)
  ATAD (10)
  SEAD (5)
  SAAD (30)
  LEAD (7)
  NAAD (5)
  CHAD (3)
  BHAD (5)
WSMR (5)
Sig FLDMS (2)
AMS (1)
USACCREL (2)
USA Engr RD Lab (5)
USAERDAA (2)
USAERDAW (13)
KMAG (5)
USARMIS, (Costa Rica (5))
USARMIS, Guatemala (5)

USARMIS, Ecuador (5)
USARMIS, El Salvador (5)
USAEPG (5)
DPG (5)
USDB (5)
Redstone Arsenal (10)
Watertown Arsenal (10)
Units Org Under fol TOE (2 ea):
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1-75
1-100
5-64
5-78
6-37
6-100
6-155
6-156
6-166
6-185
6-200
6-215
6-216
6-345
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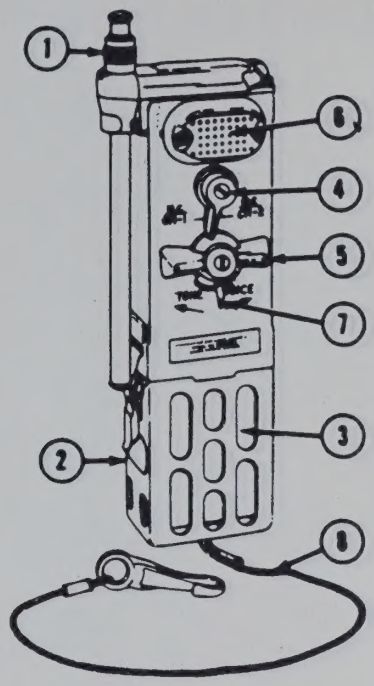
6-356
6-385
6-386
6-415
6-416
6-525
6-558
6-575
6-576
6-577
6-631
6-700
6-705
6-706
7-15
7-18
7-35
7-37
7-42
7-45
7-47
7-55
7-57
7-100
7-102
7-168
10-500 (JA-(JE)
11-57
11-97
11-98
11-117
11-127
11-155
11-157
11-158
11-500(AA-AC)
11-587
11-592
11-597
17-17
17-42
17-51
17-55
17-100
17-102
19-27
19-35
19-37
19-47
19-55
19-57
19-67
19-87
19-97
19-500(IC-IE)
29-7
29-407
87-42
87-100
87-102
39-51
55-457
57-42
57-100
57-102

NG:State AG (3).

USAR: None.

For explanation of abbreviations used, see AR 320-50.

CONDENSED OPERATING INSTRUCTIONS FOR TRANSMITTING SET, RADIO AN/PRT-4



TO OPERATE SET

THE NUMBERS OF STEPS 1 THROUGH 7 ARE THE SAME AS THE NUMBERS ON THE ILLUSTRATION.

(1) RAISE COLLAPSIBLE ANTENNA TO ITS FULL HEIGHT

(2) RELEASE BOTH BATTERY CASE CLAMPS AND REMOVE BATTERY CASE.

(3) INSERT BATTERY, DRY BA-399/U INTO MATING CONNECTOR AT BOTTOM OF TRANSMITTER. REPLACE BATTERY CASE AND SECURE CLAMPS.

(4) SET UPPER SELECTOR SWITCH IN CH-1 POSITION FOR CHANNEL 1 OR CH-2 POSITION FOR CHANNEL 2. CHANNEL 2 OUTPUT POWER IS APPROXIMATELY ONE-THIRD OF CHANNEL 1.

(5) TONE-VOICE SWITCH

FOR TONE SIGNAL: PRESS THE TONE-VOICE SWITCH IN THE DIRECTION OF TONE ARROW (CLOCKWISE ROTATION) AND HOLD IN THIS POSITION FOR AS LONG AS TONE SIGNAL IS DESIRED. RELEASE SWITCH AT END OF DESIRED TIME.

FOR VOICE COMMUNICATIONS: PRESS TONE-VOICE SWITCH IN THE DIRECTION OF VOICE ARROW (COUNTERCLOCKWISE ROTATION) AND HOLD IN THIS POSITION WHILE TRANSMITTING VOICE COMMUNICATIONS.

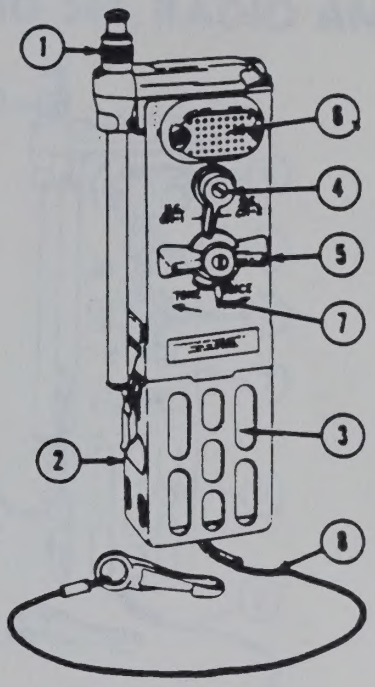
(6) SPEAK IN MICROPHONE LOCATED ABOVE CHANNEL SELECTOR SWITCH, IN A NORMAL TONE OF VOICE WITH LIPS ABOUT 1" FROM MICROPHONE. RELEASE TONE-VOICE SWITCH AT END OF TRANSMISSION.

(7) IF ONLY VOICE TRANSMISSION IS TO BE USED, POSITION THE OVERRIDE SPRING TO THE WORD VOICE. IN THIS POSITION THE TONE-VOICE SWITCH CAN BE PRESSED ONLY IN THE VOICE DIRECTION. FOR TONE ONLY USE, POSITION THE OVERRIDE SPRING TO THE WORD TONE. WHEN THE OVERRIDE SPRING IS IN ITS CENTER, DETENT POSITION, THE TONE-VOICE SWITCH CAN BE MOVED IN EITHER DIRECTION.

(8) TRANSMITTER MAY BE CLIPPED TO POCKET, BELT OR COMBAT SUSPENDERS WHEN NOT IN USE, USING CLIP ON BACK OF TRANSMITTER. TO PREVENT LOSS, PLACE LOOP END OF LANYARD THROUGH BALE ON BOTTOM OF BATTERY RETAINER. PULL CLASP END THROUGH THIS LOOP AND CLIP TO SLIDE ON SUSPENDERS.

TM 5820-548-12-22

CONDENSED OPERATING INSTRUCTIONS FOR TRANSMITTING SET, RADIO AN/PRT-4



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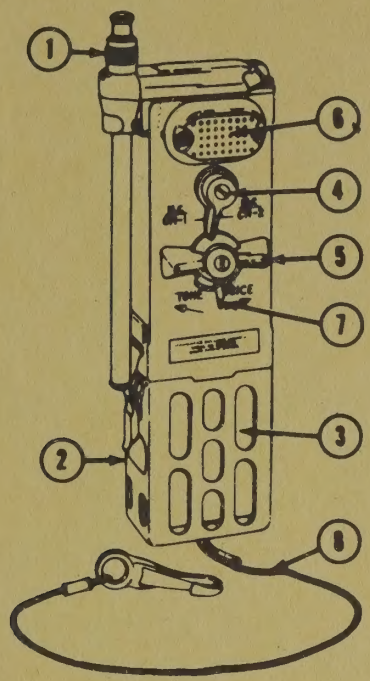
TM 5820-548-12-22

CONDENSED OPERATING INSTRUCTIONS FOR TRANSMITTING SET, RADIO AN/PRT-4



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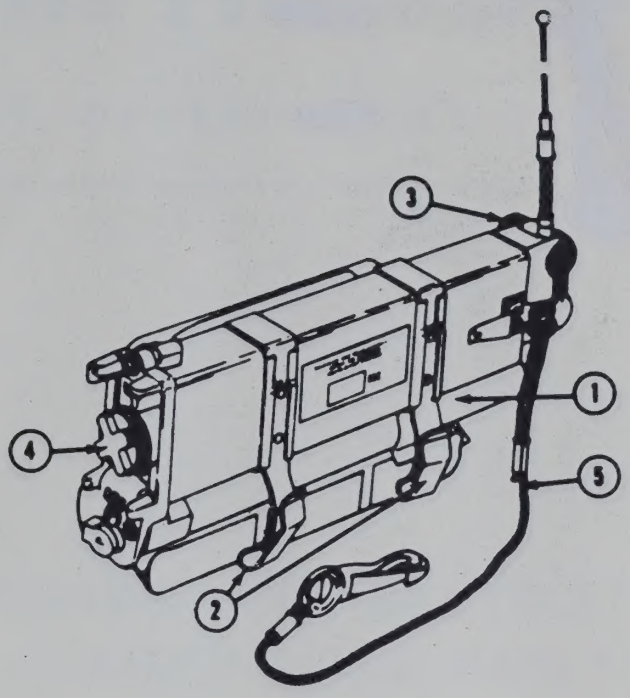
TM 5820-548-12-22

CONDENSED OPERATING INSTRUCTIONS FOR RECEIVING SET, RADIO AN/PRR-9



TO OPERATE SET

THE NUMBERS OF STEPS 1 THROUGH 5 ARE THE SAME AS THE NUMBERS ON THE ILLUSTRATION.

(1) INSERT TUBULAR BATTERY, DRY BA 505/U THROUGH BATTERY CLIP AND INTO MATING CONNECTOR OF RECEIVER.

(2) CLIP RECEIVER TO HELMET.

(3) LOOSEN ANTENNA RETAINING SCREW AND ROTATE ANTENNA UPRIGHT. TIGHTEN SCREW.

(4) RECEIVER CONTROL.

FOR RECEIVING WITH SQUELCH: ROTATE RECEIVER CONTROL CLOCKWISE FROM ITS OFF POSITION. SET TO A COMFORTABLE LISTENING LEVEL WHEN VOICE OR TONE IS RECEIVED. IF CONTROL IS ROTATED TO ITS MAXIMUM CLOCKWISE POSITION, SQUELCH WILL BE TURNED OFF (BACKGROUND NOISE WILL BE HEARD). TO REACTIVATE SQUELCH, TURN CONTROL TO OFF, THEN BACK ON.

FOR RECEIVING WITHOUT SQUELCH: ROTATE RECEIVER CONTROL FULLY CLOCKWISE FROM ITS OFF POSITION. ROTATE COUNTERCLOCKWISE FOR COMFORTABLE LISTENING LEVEL. USE RECEIVER WITHOUT SQUELCH WHEN RECEIVED SIGNALS ARE WEAK OR IN TERRAIN UNFAVORABLE FOR GOOD RECEPTION.

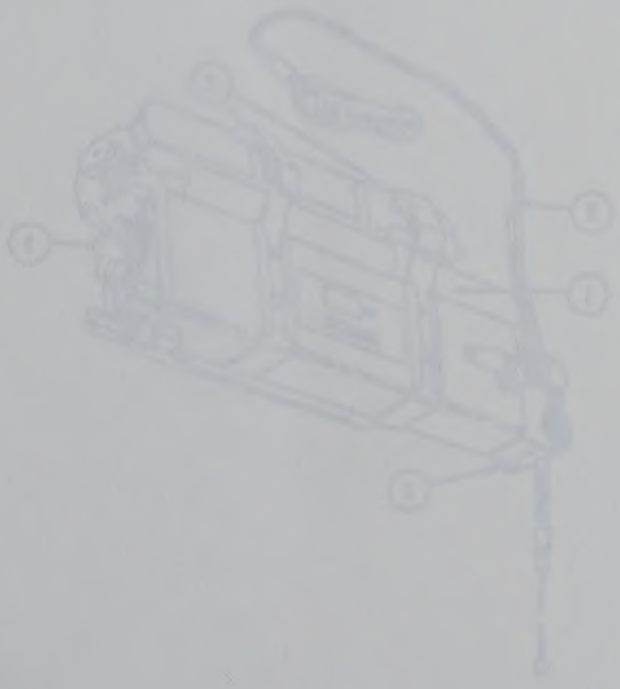
(5) RECEIVER MAY BE WORN ON COMBAT SUSPENDERS, OR CLIPPED TO A POCKET OR BELT, IF MAXIMUM RANGE IS NOT REQUIRED. IF RECEIVER IS WORN IN THIS MANNER LOOP CORD END OF LANYARD THROUGH EYELET, PULL HOOK END THROUGH THIS LOOP AND CLIP TO SLIDE ON SUSPENDERS.

TO TURN SET OFF

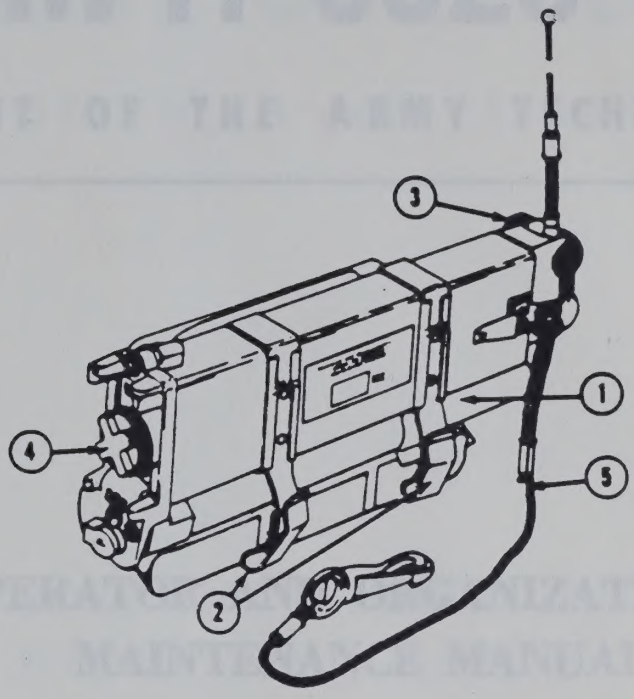
ROTATE RECEIVER CONTROL TO THE MAXIMUM COUNTERCLOCKWISE POSITION.

(INSTRUCTION FOR TRANSMITTING SET, RADIO AN/PRT-4 ARE LOCATED ON INSIDE BACK COVER)

TM 5820-548-12-21



CONDENSED OPERATING INSTRUCTIONS FOR RECEIVING SET, RADIO AN/PRR-9



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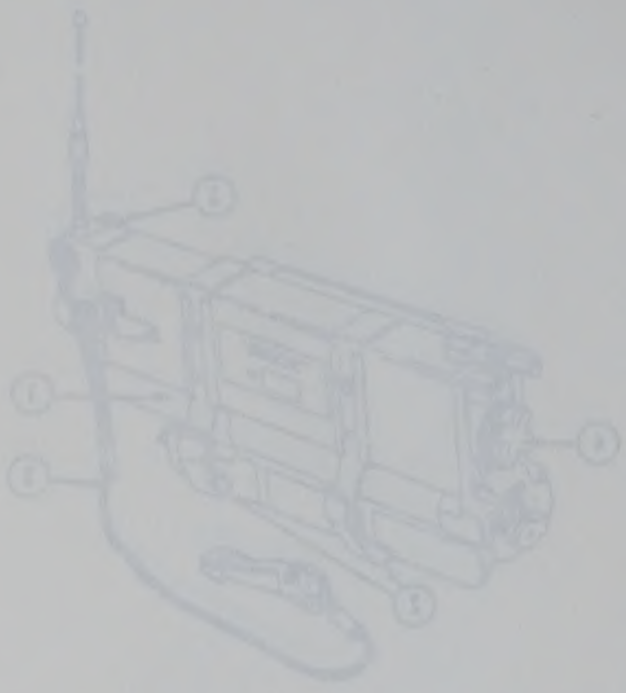
TO TURN SET OFF

ROTATE RECEIVER CONTROL TO THE MAXIMUM COUNTERCLOCKWISE POSITION.

(INSTRUCTION FOR TRANSMITTING SET, RADIO AN/PRT-4 ARE LOCATED ON INSIDE BACK COVER)

TM 5820-548-12-21



TM 11-5820-549-12

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

OPERATOR AND ORGANIZATIONAL MAINTENANCE MANUAL

RECEIVING SET, RADIO AN/PRR-9
TRANSMITTING SET, RADIO AN/PRT-4

AND AN/PRT–4A

This copy is a reprint which includes current pages from Changes 1 through 5.

HEADQUARTERS, DEPARTMENT OF THE ARMY

OCTOBER 1966

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DEPARTMENT OF THE ARMY TECHNICAL MANUAL

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HEADQUARTERS, DEPARTMENT OF THE ARMY

OCTOBER 1964

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